Rev. M. J. Thompson

Bridgeport Conn

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W. Jon Lenkowski

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THE ORIGINS OF CONTEMPORARY PSYCHOLOGY

THE ORIGINS OF CONTEMPORARY PSYCHOLOGY

BY

CARDINAL MERCIER

ARCHBISHOP OF MALINES

TRANSLATED BY

W. H. MITCHELL, M.A.

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INTRODUCTION TO THE FIRST EDITION

We propose to publish a series of studies dealing with special points of Psychology or Criteriology.

Our standpoint is that of the Aristotelian and Scholastic Philosophy; but, being imbued with a thoroughly peripatetic spirit, we desire to keep in constant touch with contemporary science and thought. The Middle Ages excelled in reflecting upon general truths. Modern inquirers are wonderfully equipped for the work of analysis, and bring thereto as much patience as sagacity. Is it not evidently the proper task of a time-honoured philosophy desirous of renewing its youth in the world of to-day to bring the wisdom of past ages to bear upon the latest triumphs of science and doctrines now accepted? And if this task is faithfully discharged, may not a real advance be legitimately anticipated?

Among the various reviews of what we have already published is one which we desire to quote, because it bears witness to the fact that the Neo-Thomist aim has been correctly appreciated in the scientific circles from which it comes. It appeared in M. Richet's *Revue scientifique*. "This work"

—our treatise on *Psychology*—" is well worth pointing out to those who have given up official Spiritualism and who are looking for a philosophy which may be reconciled with science.

" The Neo-Thomist school has renewed the youth of Scholastic teaching by becoming thoroughly imbued with the peripatetic spirit. It abandons all the doctrines that were founded upon a too scanty knowledge of nature, and it takes full advantage of modern discoveries, studying them according to the method of Aristotle.

" So great is the vitality of this philosophy that it finds a place in its scheme for the contemporary researches of physiology and psychophysics without compromising any principle, and without ever misrepresenting science, as is constantly done in standard books. Far from dreading physiological investigation it regrets that its studies on the nervous system, mental localization, and the senses, have not been carried further, for in them it recognizes indispensable auxiliaries. M. Mercier congratulates the pioneers of physiological psychology on restoring traditions which had been broken by an interval of many centuries. . . ."[1]

The present treatise is specially addressed to those who are no longer satisfied with the standard spiritualism, and if amidst the swarm of systems and growing crowd of facts that are around them they are in search of some guiding principle of thought, they may perhaps be able to take advantage of the comparison we shall endeavour to make between the psychology of Descartes, the chief founder of

[1] *Revue scientifique*, t. li., 1893, p. 55.

the official spiritualism, and the anthropology of Aristotle and the Middle Ages.

Chapter I is devoted to an *examination of the psychology* of the great French innovator. In it we shall deal first with his exaggerated *spiritualistic* theory, and then with his *mechanical* theory as applied to the study of man.

Chapter II aims at determining the historical evolution of the Cartesian psychology, and we do this according to the scheme laid down in Chapter I, examining, first, the *evolution of spiritualism* (Art. I), which gives rise to Occasionalism, Spinozism, Ontologism (Sect. I), and Idealism (Sect. II); next, the *evolution of the mechanical theory* (Art. II).

We shall not dwell upon the now abandoned theories of Occasionalism and Ontologism, but we shall have something to say of *Idealism*. We shall inquire into its origin, pointing out the parts played by Locke, Berkeley, Hume, and Kant in its development.

Then we shall refer to the influence of the sensationalist ideas of Locke, Hume, and Condillac, in England and in France; then we shall see the influence of *Sensationalism* combine in the history of modern psychology with that of *Mechanism* (the *mechanical theory*), and these various factors result in the *positivist* or *agnostic* character which is generally a feature of contemporary *Idealism*.

The present state of contemporary psychology will be the subject of Chapter III. In it we shall try to prove the insufficiency of positivist Idealism for the solution of the fundamental problems of psychology (Art. I).

Then will follow a brief analysis of the philosophic systems of contemporary thinkers, amongst whom we have selected as typical Herbert Spencer in England, Alfred Fouillée in France, and Wilhelm Wundt in Germany. In these masters of psychology we shall trace the various influences, the origin of which has been sketched in the first two chapters.

These same influences are to be found on all sides in the teaching, the writings, and the questions of to-day. And hence contemporary psychology is characterized by these three marks: first, *by a Cartesian and exclusively spiritualistic conception of psychology;* next, by the *abandonment of metaphysics*, or by *Positivism;* and this, owing to its *idealistic* form, leads on to *Phenomenalism*, or to a sort of *idealist and subjectivist Monism*. On the other hand, *experimental psychology* is developing to an extraordinary extent (Art. III).

In the following chapters the ruling ideas of contemporary psychology will be discussed. It must be understood that we shall not go into details of system or of fact, but that we shall confine ourselves to criticizing systems in principle, our sole aim being to map out the ground in which we shall endeavour to investigate special questions.

In Chapter IV the Cartesian notion of psychology will be contrasted with the ideas of Aristotle and the Scholastics on the subject of human psychology, or rather anthropology. It is entitled *Psychology and Anthropology*.

Chapter V essays a *criticism of the idealist principle*.

Chapter VI deals in the same manner, in a general way, with *the mechanical theory*.

Chapter VII contains an examination of *Positivism*, or *Agnosticism in metaphysics*.

Finally, Chapter VIII, which is the last, gives a sketch of the Neo-Thomist movement. It insists on the present importance of criteriological problems and on the rôle of experimental science in psychology. It is directly addressed to those who, accepting our point of view, desire to take stock of their position, strength, and weakness, and therefore of their duties.

LOUVAIN,
October, 1897.

NOTE ON THE SECOND EDITION

WHILE the general outlines remain unmodified, the references and quotations have been brought up to date.

May, 1908.

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THE ORIGINS OF CONTEMPORARY PSYCHOLOGY

CHAPTER I

THE PSYCHOLOGY OF DESCARTES

I

Its Exclusively Spiritualistic Theory

Descartes appears in the history of philosophy as a great innovator.

Read his life, refer to the scholars and philosophers who give a review of his work, and you will everywhere find the same general estimate: Descartes made a revolution in the world of thought, and he is the father of the modern school of thinkers.

But wherein does this revolution consist? How did Descartes bring it about?

The replies to these questions are far from being in agreement with one another.

Was the writer of the *Discours de la méthode* the first to break with tradition, and to substitute "free inquiry" for the principle of authority? Assuming such a work to be commendable, the credit for it would belong to the founders of the Reformation and to the bolder spirits of the Renaissance, to Campanella and Giordano Bruno.

Was he an originator in science and mathematics? Astronomy and the mathematical sciences took a fresh start, writes M. Liard, with Copernicus, Tycho Brahé, Kepler, Cardan, Viete and Néper; while the experimental method was introduced by Galileo, Rondelet, Servetus, Aselli, Harvey and Bacon.

Was he the creator of a method, of method itself? Strictly speaking—No. The four principles which summarize the Cartesian method finally come to this: that man's mind must begin by decomposing what is complex into its primordial elements, "trying to discover in everything that which is most absolute," and forming clear and distinct ideas of it; and then it must make use of these absolute elements, resulting from analysis, to re-form the original compound. His second principle is "to subdivide every problem demanding investigation into as many sections as possible, and as may be required the better to solve it." The third is "to do my thinking in an orderly way, beginning with the subjects that are simplest and most easily understood, and gradually rising step by step to the knowledge of the most complex."[1]

But this twofold process of dissection and combination, of analysis and synthesis, is that described in the *Organon* and faithfully followed by all the disciples of the founder of the Lyceum.[2] Hence it was not in the invention of a method, which can really be called new, that the genius of Descartes stands revealed.

[1] *Discours de la méthode*, 2e partie. Cf. Liard on *Descartes* in the *Grande Encyclopédie*.

[2] See our *Cours de philosophie*. Logique, 4th ed., Ch. III., Art. 3.

What, then, is his distinctive contribution to thought? The conception of a science of pure mathematics which would apply to every kind of research.

He was at Neuberg on the Danube in 1619. Held up by winter, and confined by himself to a little room, "where he found leisure to enjoy the company of his own thoughts," Descartes dreamed of a science wider than geometry and arithmetic and algebra, of a science of order and proportions to be called "Universal Mathematics," which would perhaps disclose to him the secret of the whole of Nature. This is what we gather from reading the *Discours de la méthode*, as M. Fouillée justly remarks; and this, too, is confirmed by the epitaph which was written by one of his most intimate friends, Chanut: "In his winter leisure, when measuring the mysteries of Nature on mathematical principles, he ventured to hope that the same key would unlock the secrets of both."[1]

Indeed, Descartes is above all a mathematician. In philosophy, as in physics and physiology, he is a geometrician. Geometry is more anxious about the strict inevitableness of its deductions than the breadth and accuracy of its preliminary observations. It is apt to be one-sided, looking at things from a single point of view.

We shall see both the qualities and defects of the geometrical spirit of Descartes coming out in his studies concerning the soul and the body. And when at last the inferences of his deductive psychology bring him face to face with the inevitable

[1] A. Fouillée, *Descartes*, pp. 11, 12.

opposition between the thinking mind and the extended body, the geometrician shuts his eyes to the consequences of his system; the proud ideal edifice remains, but the anthropological foundations are left long unsettled by the shock. Let us not, however, anticipate.

What is the starting-point of the Cartesian psychology?

Descartes' philosophy may be condensed into his famous formula: "I doubt, I think: therefore, I exist."

To curtail the errors of the human mind, to uproot misleading illusions, whether proceeding from education, the senses, or from some wicked spirit which rejoices in playing upon our credulity; then, to set upon a solid and henceforth immovable foundation philosophy reconstructed on a new plan, such is the root-idea of the Cartesian system.

Psychology, indeed, thus springs up like a plant from its seed.

Urged thereto by doubt, says Descartes, I cast out of my creed, first, the teaching of tradition, next, the testimony of the senses; for I remember how "I have often been misled by the senses, and how prudence bids me never to give my full confidence to those who have once deceived me." Then I get rid of the affirmations of the inner sense which tells me, for instance, "that I am here, sitting by the fire in my dressing-gown, holding these papers or suchlike things . . . because I remember how often I have been deceived, when asleep, by similar delusions, and, dwelling on this

thought, I see quite plainly that there are no sure signs to enable me to distinguish a waking from a sleeping state, so that I am lost in wonder; and so great is my astonishment as almost to persuade me that I am asleep."

Lastly, I cast out of my belief the subject-matter of the simplest and most general cognitions with regard to extension, number, etc., for I have a notion of a God who can do all things, and by whom I have been made that which I am. " But, how can I tell that He has not acted in such a manner that there is really no earth, no heaven, no matter of an extended character, etc., and that nevertheless I have sensations of all these things ? How can I tell that He has not so acted that I am mistaken whenever I add up twos and threes, or count the sides of a square ?"[1]

But, after having cast out of my belief all the persuasions that doubt has succeeded in unsettling, have I nothing left behind ?

There only remains myself. " I " who doubt as to all these things, I represent to myself all the things about which I doubt, *videre videor, audire, calescere*[2]: " I think I see, hear, get hot: it is to no purpose that I try to imagine a very mighty and crafty deceiver who uses all his ingenuity in constantly deceiving me." What does it matter ? " At any rate there is no doubt that ' I ' exist, even if he deceives me: let him deceive me as much as he will, he will never be able to succeed in making me nothing, as long as I think that I am something."[3]

[1] *Méditation* 1re. [2] *Ibid.*, 2e.
[3] *Ibid.*

I have, then, at least one thing of which I am sure: it is that *I think*, and that *I*, the thinker, *exist*.

This one thing is certain and free from doubt, but it is *the only thing* that is so.

"But what did I think that I was hitherto? Without hesitation, I thought myself a man. But what is a man? Shall I reply, a rational animal? No, indeed; for then I must ask what is meant by 'animal' and by 'rational,' and thus by one question I shall insensibly be driven to ask an infinite number of others still more difficult and embarrassing. . . ."[1]

"Ought I rather to stop and consider the thoughts suggested to me by my own nature only, when I set myself to consider my being? I looked upon myself as having a face, hands, arms, and so forth . . . a body. I considered, moreover, that I ate and drank, that I walked, felt, and thought; and I referred these operations to the soul. But now, supposing that some crafty genius is using all his wits to deceive me, can I affirm that I have the least of all the things which I just now said belonged to the nature of the body? No. Can I admit that in myself there is any one of the attributes which I regarded as belonging to the soul? The first are those of eating and drinking and walking. But if it be true that I have no body, it is also true that I cannot walk or eat or drink. Feeling is another attribute, but one cannot feel without a body, quite apart from the fact that I used to think I had often felt things while asleep, which on

[1] *Méditation 2e.*

waking I discovered that I had really never felt at all."

" Another attribute is that of thinking, and here I remark that thinking is an attribute that is really mine: alone it cannot be separated from me." *Cogitatio, haec sola a me divelli nequit, ego sum, ego existo, certum est.*[1]

I am, therefore, something that thinks, that is all, and this something that thinks I call indifferently mind, soul, intelligence, reason, a number of expressions the exact meaning of which I had not hitherto mastered. *Sum igitur praecise tantum res cogitans, id est, mens, sive animus, sive intellectus, sive ratio, voces mihi prius significationis ignotae: . . . quid igitur sum? res cogitans: quid est hoc? nempe dubitans, intelligens, affirmans, negans, volens, nolens, imaginans quoque et sentiens.*

Such, then, is the foundation of the Cartesian psychology. I am not a rational animal, or at any rate I cannot be sure that I am such; I cannot regard myself as having a body that feeds and walks and feels, for all these functions of vegetative life, of locomotion, of sensibility, imply the possession of a body, and I am not sure of having a body; all that upon reflection I can maintain as a certainty is this, that I am a being who thinks, doubts, understands, affirms, denies, wills or wills not, imagines and feels.

Further, says Descartes, this certitude only lasts as long as my doubt or my thought. " I am, I exist, that is certain: but how long? As long as I think; for perhaps it might happen that, if I were

[1] *Méditation 2e.*

to cease thinking altogether, I should at the same time altogether cease to exist."[1]

Thus the subject-matter of psychology is clearly defined. It is not man, body and soul, with his threefold life, vegetative, sensitive, and intellectual; it is the mind and its thoughts, just that, and that only.

Thought comprises all that the mind can be conscious of; all, therefore, of which it can be certain without any risk of illusion; it comprises intellectual cognitions, voluntary acts, and the phenomena of imagination and sensibility.

Descartes denies certitude to the phenomena of imagination and sensibility so far as they depend upon the body, for the existence of the body finds no sufficient guarantee of certitude in the soul's consciousness, but he admits their knowableness so far as they depend upon the soul and come within the immediate grasp of thought.[2]

So, then, we may thus sum up the psychology of Descartes: a spirit endued with thought, and that thought manifesting itself in three different ways—intellectual, volitional, and sensational.

As to his *method*, plainly it can be no other than that of *consciousness*, for, as his definition of the subject implies, nothing belongs to the soul except so far as it falls within the reach of consciousness.

Since consciousness belongs exclusively to the

[1] *Ego sum, ego existo, certum est. Quamdiu autem? nempe quamdiu cogito: nam forte etiam fieri posset si cessarem ab ab omni cogitatione ut illico totus esse desinerem.* —*Médit.* 2e.

[2] This consideration is strongly brought out by a capable Cartesian, M. l'Abbé Duquesnoy, in his book, *La perception des sens, opération exclusive de l'âme.*

mind, animals without minds cannot have consciousness; hence they cannot have cognitions, will, and sensibility, and they are bodies that do not differ by nature from other bodies, and are, therefore, as we shall presently see, merely aggregates of material atoms subject exclusively to mechanical laws—in fact, they are but machines and automata.

Having thus absolutely determined the subject-matter of psychology, Descartes contrasts it with material bodies, the subject-matter of physics.

Here we shall simply indicate this new consideration, for we shall have to come back to it *ex professo* later on.

Methodical doubt applied to our judgements about material things discovers errors constantly arising from our attributing to bodies properties which really belong only to ourselves. Such, for instance, are the colours and tones that we assign to external bodies when they have no reality except in ourselves.

But when we carefully eliminate from our judgments as to bodies all that we can get rid of without doing away with them altogether, what remains? These bodies seem to us to be invested with some outward shape, and to be able to move: but this shape and motion are the effects of extension; therefore it follows that the bodies consist of extended matter. Now just as the mind is something which only thinks, so is the body something which is only extended. Between these two, thinking mind and extended matter, there is a radical incompatibility; they absolutely exclude one another.

We have seen what the soul is in itself, *i.e.*, "something that thinks"; we have contrasted it with the body, especially with the human body, "something extended, governed by the laws of motion." Before going further into the analysis of the nature and content of thought, there is a question to be cleared up: what relation is there between thought and the thing that thinks, between the conscious act and the principle from which it springs?

Descartes replies that thought is an attribute of the soul, and therefore that there is no real distinction to be drawn between the two.

Under the term *substance* Descartes understands being that has no need of any other thing in order to exist.

Body and mind are substances in the sense that they require only divine support in order to exist.[1]

Substance can only be known by its attributes.

By the word *attribute* Descartes understands a quality inseparable from its substance, thus differing from the variable qualities called *modes* or *modifications*. Any sort of attribute may help to make known the substance in which it inheres; but nevertheless every substance has a chief attribute presupposed by the other qualities: it is this that constitutes the nature or essence of the thing. Thus extension in length, breadth, and depth constitutes the nature

[1] *Per substantiam nihil aliud intelligere possumus quam rem quae ita existit, ut nulla alia re indigeat ad existendum. . . . Nomen substantiae non convenit Deo et creaturis* univoce. *Possunt autem substantia corporea, et mens, sive substantia cogitans, sub hoc communi conceptu intelligi quod sint res quae solo Dei concursu egent ad existendum.—Princip. Philosophiae,* Pars 1ª, §§ 51, 52.

of a bodily substance, thought that of a spiritual substance.[1]

Between the substance and its attribute there is only a *rational* distinction.[2]

Strictly speaking, a *real* distinction is only to be found between two or more substances; and we can only perceive that the two really differ when we can know one clearly and distinctly without the other.

A *modal* distinction exists between a substance and its mode, or between two modes of the same substance.

A *rational* distinction is one which is ascertained between a substance and one of its attributes without which it cannot be conceived, or between two attributes of the same substance. We recognize such a distinction of reason by the fact that we

[1] *Et quidem ex quolibet attributo substantia cognoscitur : sed una tamen est cujusque substantiae praecipua proprietas, quae ipsius naturam essentiamque constituit et ad quam aliae omnes referuntur. Nempe extensio in longum, latum et profundum, substantiae corporeae naturam constituit ; et cogitatio constituit naturam substantiae cogitantis.* —*Princip. Philosophiae*, I[a], § 53.

[2] *Triplex est distinctio, realis, modalis et rationis.*

Realis *proprie tantum est inter duas vel plures substantias : et has percipimus a se mutuo realiter esse distinctas, ex hoc solo, quod unam absque altera clare et distincte intelligere possimus. . . .*

Distinctio modalis *est duplex, alia scilicet inter modum proprie dictum, et substantiam cujus est modus ; alia inter duos modos ejusdem substantiae. . . .*

Denique distinctio rationis, *est inter substantiam et aliquod ejus attributum, sine quo ipsa intelligi non potest vel inter duo talia attributa ejusdem alicujus substantiae. Atque agnoscitur ex eo quod non possumus claram et distinctam istius substantiae ideam formare, si ab ea illud attributum excludamus ; vel non possimus unius ex ejusmodi attributis ideam clare percipere, si illud ab alio separemus.*— *Ibid.*, §§ 60-62.

cannot form a clear and distinct idea of the substance when we shut out the idea of its attribute.

Here is psychology reduced to its simplest form. It has no need of a number of faculties really distinct from one another: it has one substance, the thing that thinks; its attribute, thought; between this substance and its attribute, one rational distinction.

Thought or self-consciousness has this twofold characteristic: it is *clear* and *distinct*.

A perception is *clear*, according to Descartes, when its object is present to the mind without any intermediary. It is *distinct*, when it represents to me something in its own nature, excluding any other object.[1]

But, when I conceive myself as a being able to represent things to itself, my thought is both clear and distinct.

My thought is *clear*, for nothing is so immediately present to me as what I perceive in my soul. My thought is *distinct*, for the fact of thought sets up a radical distinction between my thinking spirit and extended bodies. Thought, indeed, essentially excludes extension and properties dependent upon extension, *i.e.*, divisibility and motion.

The fact that the characteristics of thought, that is to say of the act of consciousness, and of extension are irreducible is to Cartesians an intrinsic proof of

[1] *Claram voco illam perceptionem, quae menti attendenti praesens et aperta est; sicut ea clare a nobis videri dicimus, quae oculo intuenti praesentia, satis fortiter et aperte illum movent. . . . Distinctam autem voco illam quae, cum clara sit, ab omnibus aliis ita sejuncta est et praecisa, ut nihil plane aliud, quam quod clarum est, in se contineat.—Princip. Philosophiae,* I^a, § 45.

the immateriality of the soul. This proof is not taken from the characteristics of *intellectual* cognition, considered as being superior to sensible perception and to the act of imagination; it arises entirely from the characteristics of the act of *consciousness*.

Under the term, *act of consciousness*, the Cartesian psychology understands indifferently the act of the inner sense and the act of intellectual cognition.

The immateriality of the soul is further proved by the assumed simplicity or indivisibility of sensations or sensible desires, as well as by the characteristics of intellectual cognition and of higher volition.[1]

Hence we can understand why Cartesian psychologists, always influenced by the same considerations, begin with laying down the simplicity of the soul in order to deduce therefrom its spirituality. The Scholastics, on the contrary, make the simplicity of the soul a corollary of its immateriality.

We have just seen what is meant by thought. And now, what does it contain? What are our thoughts, and what have they to tell us about reality?

In other words, thought has been analyzed from a subjective point of view, and now Descartes passes to the objective, or rather critical, viewpoint to study the relations between the various thoughts of the soul and the objects they represent.

[1] See Duquesnoy, *La perception des sens;* P. Janet, *Le matérialisme contemporain*, p. 211. Cf. D. Mercier, *Psychologie*, 7e ed., t. i., No. 153, t. ii., Nos. 252 *ff.*

These are his own words: " I must divide all my thoughts into certain classes, and I must consider in which of these classes there is properly truth or error.

" Among my thoughts, some are as it were images of things, and these alone can be properly called ideas: as when I represent to myself a man, or a chimera, or heaven, or an angel, or even God. Others, in addition, take other forms according to my will or fears or affirmations or denials; and then I well think of anything as the subject of an operation of my mind, but thereby I also add something else to the notion I form of such a thing. Of this class of thoughts some are called *volitions* or *affections*, others *judgements*.

" Now, so far as concerns *ideas*, if they are considered only in themselves and not referred to anything else, they cannot strictly speaking be untrue; for, whether I imagine a goat or a chimera, I imagine the one no less truly than the other.

" Nor need mistakes be feared in the *affections* or *volitions*: for though I may desire what is bad, or even what never existed, it is nevertheless just as true that I desire it.

" Hence there only remain *judgements*, in which I must take the greatest care not to make mistakes. But the chief and the commonest of errors consists in thinking that my internal ideas are like or in conformity with things outside me.

" But amongst these ideas some appear to be born with me, others to be foreign to me and to come from outside of me, and others to be made or invented by myself. For, my possession of the

faculty of conceiving whatever is generally called a thing, or a truth, or a thought, appears to be mine solely owing to my own nature: but if I now hear a sound, if I see the sun, if I feel heat, hitherto I have considered these notions arose from things outside me. . . . Now, what I have chiefly to do in this matter is to consider, with regard to the notions that seem to come from some external things, what are my reasons for thinking that they resemble these things. . . . But all this makes it pretty plain to me that it is merely through a blind and hasty impulse that I came to believe that there were things outside me which were different from my own being, which by the organs of the senses or in some other way communicated to me their notions or representations and imprinted their likeness upon me.

"But there is another way of investigating whether among the things the notions whereof exist within me there are any that exist outside of me. . . ."[1]

Here the criteriological problem is stated: how does Descartes solve it?

We may sum up his train of reasoning as follows:

My ideas, considered *subjectively* as certain ways of thinking, do not differ from one another; but viewed *objectively*, they do differ from each other.

First, there is one that represents me to myself; another represents God to me; others inanimate bodies, others animals, others angels; and others represent men to me, men like myself.

[1] *Méditation* 3e.

The *objective reality* belonging to my ideas must have its sufficient reason. But this reason is only to be found in a being possessing really and *actually*, *formally* and *eminently*, whatever *objective* reality there is in our ideas. Otherwise, I shall be driven to say that there is in the object of my ideas something that is derived from nothingness.

As to the object of the notion of myself, there is no difficulty provided that I already have the certain knowledge that I myself am something that thinks. As to the ideas of other men, of animals and angels, I do not find it hard to explain their formation with the help of elements borrowed from ideas of corporal things and of God, even if outside of me there were no other men in the world, nor any animals or angels.

There remain the notions of things corporal and of God.

" As to the notions of corporal things, I find in them nothing of such magnitude and excellence that it may not be derived from myself. . . .

" Consequently, there remains only the notion of God, concerning which I have to consider whether there be anything in it that could not have come from myself. By the term ' God ' I understand a substance that is infinite, eternal, immutable, independent, omniscient, omnipotent, whereby I and all other things that are (if it be true that any really exist) have been created and made. But these advantages are so great and pre-eminent that the more attentively I consider them, the less I am persuaded that the notion I have of them can owe its origin entirely to myself. And consequently, I

am driven to infer from all that I said before that God exists; for although the notion of substance is in me owing to the fact that I am a substance, nevertheless I should not have a notion of an infinite substance, I who am a finite being, if it had not been implanted in me by some substance that was really infinite.

" And I must not imagine that I do not conceive of the infinite by a true notion, but only by the negation of the finite, in the same way as I understand rest and darkness by the negation of motion and light; since, on the contrary, I see plainly that there is more reality to be found in an infinite substance than in a finite substance, and consequently that I have in myself primarily rather a notion of the infinite than of the finite—that is to say, a notion of God rather than of myself; for how could I know that I doubt and desire—that is to say, that I am not quite perfect—if I had in me no idea of a being more perfect than my own, by comparison wherewith I perceive the defects of my nature ?"[1]

Besides, I who have this idea of God could not exist, if there were no God. I want to know, indeed, to whom I owe my existence. Perhaps to myself or my parents, or to some other causes less perfect than God; for one cannot conceive of anything more perfect than He, or even as good as He.

But, if I were independent of all others and myself the author of my being, I should not doubt about anything, I should not have desires, and lastly, no perfection would be lacking to me; for I should

[1] *Méditation* 3e.

have given myself all those of which I have any notion, and thus I should be God. If I assume that my parents are the cause, I only raise a fresh difficulty. If I assume causes less perfect than God, I assume an impossibility, " for there must be at least as much reality in the cause as in the effect."

Hence, I am driven to conclude that, from the sole fact of my existence, and from the fact that in me there is an idea of a supremely perfect Being —namely, God—the existence of God is very manifestly proved.

And now there is only one question to be cleared up: How did I obtain this notion ? " I did not get it through the senses, nor is it a pure fiction of the mind, and consequently I can only say that this idea was born and conceived along with me from the day I was created, just as was the notion of myself. . . .

" This God has no defects, hence it is pretty clear that He cannot deceive, since our natural light tells us that deceit necessarily depends upon some defect."[1]

Therefore God's perfection is a pledge to us of the truth of our judgements upon external things; the only condition certitude requires of us is that we should abide by what is clear and distinct in our ideas.

Thus we have settled the twofold question of the nature and origin of our ideas. We have two innate ideas " springing up within us from the moment of our creation," the idea of myself, and the idea of God.

[1] *Méditation* 3e.

These two ideas are clear and distinct—that is to say, immediate and our own. By means of these two ideas we can explain the formation of all our other ideas that are clear and distinct. The idea of God can only be explained by the operation, and therefore as depending upon the existence, of a perfect Being who is the author of it. A perfect Being cannot deceive us. Therefore our clear and distinct perceptions do not deceive us, but are a faithful expression of reality.

By way of general conclusion, let us now sum up the principal features of this first part of the Cartesian psychology.

I am a thinking substance.

My thought embraces all the facts perceived by the inner sense or consciousness, to wit, sensible or affective facts, volitional facts, and intellectual facts or judgements.

My nature is revealed by my thought; I am a spirit, whose attribute is to think. And hence psychological method must go entirely by the inner sense or consciousness.

Moreover, there is no real distinction between the substance and its attribute, between my soul and my thought. My thought proves the immateriality or spirituality of my nature, for the attributes of a thinking thing are incompatible with those of a corporeal thing. Thought and extension exclude one another. My clear and distinct ideas about each of them make me see this.

If I am merely a spirit whose whole nature or essence consists in thinking, the phenomena of the

body, whether they belong to the vegetative or to animal life, have nothing to do with psychology, and belong exclusively to physics, or rather to mechanics.

Such is thought under its subjective aspect; from this point of view all our thoughts are the same. But, from an objective point of view, they differ from one another; many of them require borrowed elements to explain their origin; others, such as the idea of myself and the idea of God, are within me from the beginning.

The idea of God must owe its source to God Himself. Therefore God exists. But God, the perfect Being, cannot deceive me. Therefore I can rest assured that my ideas, provided that I keep to such as are clear and distinct, are a faithful expression of reality.

Thus the psychology of Descartes, both at its starting-point and in its final term, is bound up with a critical search for truth.

Here we shall not go at length into the critical side of the Cartesian philosophy, but confine ourselves to his psychology. We have hitherto regarded it so far as it proposes to devote itself entirely to studying the soul that thinks by means of consciousness. So far the Cartesian psychology is spiritualistic to excess. What will it become when it has to study the soul in its relations with man's bodily activities ?

II

The Mechanical Theory as applied to Man or to Anthropology

When psychology is systematically confined to the investigation of the thinking soul, and thought is regarded as the distinguishing attribute of mind, the investigation of the soul plainly becomes by definition a study of the mind, and psychology exclusively spiritualistic.

But what is to be said of the manifestations of human life which cannot be associated with thought? To what principle shall we assign digestion, the beating of the heart, the circulation of the blood, the sense of sight, and the sense of hearing? How are we to treat such phenomena?

Descartes replies without hesitation. Whenever a phenomenon is not an act of consciousness, it does not depend upon the soul which is spirit, but upon the body.

The human body, like all other natural bodies, is only an extended substance with a capacity for motion. Hence, all phenomena that are not conscious thoughts attributable to the mind are modes of motion. Physiology, and the part of psychology which, along with Aristotle, we assign to the soul, not so far as it is spiritual or subjectively independent of the body, but so far as it is substantially united with the body, form two chapters of mechanical science. This is expressly acknowledged by Descartes. He begins his treatise on man as follows:

" I must first of all describe to you the body by itself, and then the soul by itself, and lastly I must show you how these two natures must be connected and united together to make men like ourselves.

" I suppose that the body is merely a statue or earthen machine made by God on purpose to resemble us as much as possible . . . so that it imitates all those of our functions which can be conceived as proceeding from matter and as depending solely on the arrangement of our bodily organs. We see clocks, artificial fountains, windmills and other similar machines, which are only the handiwork of man, and yet are not without the power of going on of their own accord in various ways. . . . So you may have seen in the grottoes and fountains of our Kings' gardens, that the sole force of running water flowing from the spring is enough to put all kinds of contrivances in motion, and even to make them play some instruments or utter a few words, according to the various arrangement of the pipes that convey it.

" And of a truth one may very well compare the nerves of the machinery I am now describing to the pipes of the contrivances of these fountains; its muscles and tendons to the various engines and springs that set them in motion; its animal spirits to the water that impels them, the heart being their source, and the hollows of the brain their peep-holes. Further, breathing and such other functions as are natural and usual thereto, depending as they do upon the flow of these spirits, resemble the motions of a clock or windmill, which the ordinary flow of water may render continuous. The outward

things which by their mere presence act upon the organs of the senses and thereby determine its motion in various ways according to the disposition of various parts of the brain, are like strangers coming into one of these grottoes or fountains and producing without knowing it what is going on around them; for they cannot go into it without walking over certain slabs so arranged that when, for instance, they come near some bathing Diana, they drive her to take refuge in the rushes, and if they go on following her, they bring a Neptune down upon them and threatening them with his trident; or, if they turn some other way, out comes a sea-monster spouting water in their faces, or suchlike other things, according to the fancy of the engineers who planned them. And lastly, when the *rational soul* has its place in this piece of mechanism, its centre will be in the brain, and there it will stay like the waterman who has to be in the man-holes where all the pipes in the machinery meet, when he wishes to set it going or to stop it, or to change its operations in any way."[1]

Further on, Descartes expresses himself very nearly thus:

"This motion of the blood which I have just explained is as much the necessary result of the parts you can see in the heart, of the heat[2] that can be felt by putting one's finger in it, and of the nature of the blood which can be experimentally ascertained, as the motion of a clock is the effect

[1] *Œuvres de Descartes*, ed. Cousin, IV., pp. 336, 347-349.
[2] Descartes was mistaken, not knowing that the circulation of the blood is due to the contraction of the walls of the heart.

of the strength, the position, and the form of its weight and works.

" The animal spirits are like a very subtle fluid or a very pure and lively flame: the heart continually begets them, and they ascend to the brain which acts as a sort of reservoir to them. Thence they flow to the nerves which distribute them amongst the muscles, and produce contraction and slackening according to their amount.

" After that I want you to consider that all the functions which I have attributed to this machine (the human body), such as the digestion of meat, the pulsation of the heart and of the arteries, the nourishment and growth of the limbs, breathing, waking and sleep, seeing, hearing, smell, taste, feeling hot and any other properties of the external senses; the impression of their ideas upon the organ of the common sense and of the imagination, and the retention or imprinting of these ideas upon the memory; the internal movements of the appetites and passions; and lastly, the external movements of all the members which follow so opportunely the many operations of the things that are presented to the senses as well as the passions and impressions that are to be found in the memory, that they imitate as closely as possible those of a real man—I want you, I say, to consider that *these functions quite naturally follow in this machine from the mere arrangement of the organs, neither more nor less than the movements of a clock or other automaton, from its weights and works*, so that so far as they are concerned we need not think of any vegetative or sensitive soul in it, or of any other principle of life or

motion than the blood and the spirits continually stirred up by the fire constantly burning in the heart, a fire which does not differ by nature from any other fires to be found in other inanimate bodies."[1]

Please to mark Descartes' words: "*All these functions* (vital or sensitive) *naturally follow in this machine from the mere arrangement of the organs, neither more nor less than do the movements of a clock or other automaton. . . .*"

This affirmation implies a twofold thesis: first, that in the functions of the vegetative and of the sensitive life only mechanical forces come into play; next, that these forces are only efficient causes, the functions resulting from the mere arrangements of the organs, almost according to the saying of Lucretius, *Quod natum est, id procreat usum.*

And these two theses are expressly affirmed by Descartes. In his *Principia philosophiae* he formally declares that Physics may be reduced to Mechanics. The essence of the body is extension, and extension explains the shape and movement of extended bodies, and motion in its turn accounts for all further physical phenomena.

"And therefore throughout the universe there is only one and the same matter to be found, and it is only to be known by its extent. And all the properties that we clearly perceive in it may be reduced to this, that it is divisible and mobile in its parts. . . . Every modification of it, and every difference of shape to be found in it, depends upon motion.

[1] *Œuvres de Descartes*, ed. Cousin, IV., *loc. cit.*

"For I openly affirm that I know of no other matter of things corporal than that which is in every way divisible, and susceptible of shape and motion, that which geometricians call quantity, and take as the subject-matter of their demonstrations; that in it I observe nothing but such divisions, shapes, and movements; that I admit nothing to be true except that which can be proved to result from such common notions of truth as are indubitable. And because in this way all the phenomena of nature may be explained, as we shall see later on, I think we should not admit any other principle nor desire any other."

As to the cause of motion, it is twofold: one universal and primordial, the general cause of the sum-total of all the motions in the world; the other particular, in virtue whereof the different parts of matter acquire a motion which they had not previously.

The general cause of all motions manifestly appears to Descartes to be God only, for to create motion, says he, the gulf between non-existence and being had to be crossed; but that presupposed an infinite power.[1] But it is natural to an immutable God to act immutably. Hence God must keep up the movement He has made, and consequently the quantity of movement in the universe is invariable.

Descartes excluded from the study of nature, just as clearly, the search for final causes. God's work, he said, is far too great for us to understand; hence it would be presumptuous on our part to try to

[1] Cf. *Lettres de M. Clersetier*, No. 125.

determine the ends proposed to Himself by the Creator:

" Let us take care not to have too high an opinion of ourselves. . . . This is what would happen, if we were to think we could understand by our intellectual power the ends God set before Himself when He created the universe.

" Thus, in fine, we shall never get any of the motives underlying the things of nature out of the end God or nature had in view in creating them, because we ought not to claim to enter into God's designs; but, if we consider Him as the end of all things, we shall see what with the help of the natural light He has given us we ought to infer from His true attributes, a certain knowledge of which He requires of us so far as their effects fall within the scope of our senses."

Hence, the mechanical interpretation of the phenomena of vegetative and sensitive life, so far as they are not identified with thought, was a logical consequence of Descartes' general principles in the interpretation of nature.

From this proceeds the most striking characteristic of the Cartesian psychology: *the opposition it set up between the soul and the body.*

Descartes, as we have said, is above all a geometrician, a man of *simplifying* and *deductive* mind. In his study of the soul, he reduces all its activity to thought, and its nature to its aptitude for thinking. In his study of bodies, including that of the human body, he reduces all their properties to extension, all their activities to motion.

Now, it is of the essence of thought to exclude extension and motion, and it is of the essence of motion and extension to have nothing in common with thought. What, then, becomes of the union of soul and body? For there is, indeed, no doubt that there is a body which, unlike all bodies that are foreign to me, I regard as *mine;* there is no doubt that my soul can act and suffer with my body.[1] How are these indisputable facts to be explained?

"This question," says Descartes to the Palatine Princess Elizabeth, "appears to me to be the one that may most rightly be put to me, considering my published writings. For since there are two things in man's soul, and since on these depends all our knowledge of its nature, one of them being the fact that it thinks, and the other the fact that it is united to a body and acts and suffers along with it, I have said almost nothing of the latter,

[1] "There is nothing," says Descartes, "that nature teaches me more expressly and sensibly than that my body is ill when I feel pain, and that it needs food and drink when I am hungry and thirsty. . . . And consequently I must have no doubt whatever that there is some truth in all that.

"Nature also teaches me by these feelings of pain, hunger, thirst, etc., that I not only dwell in my body, like a pilot on his ship, but that further I am very closely bound up with it, and so much confused and mixed up with it that I make up a single whole along with it. For, if it were otherwise, when my body is wounded, I should not therefore feel pain, I who am only something that thinks; but I should perceive the wound with the understanding only, as a pilot perceives with his eyes anything broken in his ship; and when my body wants to eat or to drink, I should just come to know that, even without being warned by my feelings of hunger and thirst: for all these feelings of hunger, thirst, pain, etc., are only certain dim ways of thinking, which proceed and result from the union and, as it were, from the mingling of the mind with the body."—*Méditation* 6e.

and have only endeavoured to make the first well understood, because my main design was to prove the distinction there is between soul and body. To do this, only the former was of any use, and the other would have been a hindrance."

Thus Descartes admits that he has only regarded human psychology from one point of view; he has converted anthropology into psychology. This is the essential defect of his method.

In fact, he emphasized the distinction between the soul and the body to the point of setting up an opposition between them; he relegated the soul to an infinitesimal part of the matter of the brain, and was satisfied to connect it there with the animal spirits to obtain information as to what goes on in the body, and to transmit orders by means of them to the nerves and muscles, and thus to control the movements of the body.

But the more the opposition between the soul and the body is emphasized, the more does the natural possibility of their union disappear. But, just then, the Palatine Princess was bent on pressing home the question of the union of the soul with the body upon her eminent correspondent.

"But as to that which Your Highness so clearly sees," writes Descartes, "that it is impossible to conceal anything from you, I shall try now to explain how I conceive of the union of the soul with the body, and how the former is able to move the latter."

Descartes' explanation may be summed up as follows: All our knowledge depends upon certain primitive notions which nature has given us in

order to know things. These primitive notions are sincere, and cannot deceive us. When we make mistakes, it is because we do not distinguish them, or else because we apply them to things wherewith they have nothing to do.

Do we, then, want to get a right idea as to the union of the soul with the body? We have to find out what is the primitive notion we naturally have of "the soul and the body together."

According to Descartes, we have various categories of primitive notions—some general and adapted to everything, such as the ideas of being, number, and duration; as to the body in particular, we have the notion of extension; as to the soul alone, that of thought; lastly, as to the soul and body taken together, we have only the idea of their union, and on this depends our idea of the soul's power of moving the body and of the body's action upon the soul.

How are these notions of the union of the soul with the body, and of a power whereby the soul acts upon the body and the body upon the soul, manifested to consciousness?

We are accustomed to attribute to supposedly real qualities of bodies, such as weight and heat, the power of acting upon other bodies. But when we represent to ourselves weight as a force that can move the body wherein it is towards the centre of the earth, we have no difficulty in conceiving how this force moves the body, nor how it is joined thereto, and we do not think that it is done by the real connection or contact of one superficies with another. We do not apply to weight the notion of

any such action. For weight, as is proved in physics, is not a quality that is really distinct from any body. Hence it is in order that we may conceive of the way in which the soul moves the body that this particular notion has been given us by the Author of our nature, and consequently this notion ought to provide us with the solution of the anthropological problem of the union of the soul with the body. Here Descartes' words seem to lack their usual clearness, and we therefore put before our reader the whole of the rather lengthy passage, which we have endeavoured to reproduce in substance.

"First of all, I consider that there are in us certain primitive notions, which are as it were originals, on the pattern of which we form all our other cognitions, and that there are very few of these notions; for after our most general ideas as to being, number, and duration, which are adapted to all we can conceive, we have as to the body in particular only the notion of extension, from which follow the notions of form and movement; and as to the soul alone we have only the notion of thought, wherein are comprised the perceptions of the understanding, and the inclinations of the will; lastly, as to the soul and body taken together we have only the notion of their union, whereon depends that of the soul's power to move the body and the body's to act upon the soul, by causing its feelings and passions. I further consider that all the knowledge of mankind consists in nothing else than in well distinguishing these notions from each other, and in attributing each of them only to the things to which they belong; for when we desire

to explain some difficulty by means of a notion that has nothing to do with it, we cannot help making mistakes; just as when we want to explain one of these notions by means of another; for since they are primary, each of them can only be understood by itself. And inasmuch as the use of our senses has made our notions of extension, shape, and movement much more familiar to us than any others, the principal cause of our errors lies in this, that we usually want to make use of these notions to explain things to which they do not belong, as when we try to use our imagination to form an idea of the nature of the soul, or when we wish to conceive of the way in which the soul moves the body by the way in which one body is moved by another body. And this is why, in the meditations which Your Highness has condescended to read, I have endeavoured to give a conception of the notions which belong to the soul only, marking them off from those that belong to the body only; the first thing that I have to explain afterwards is, how we must think of the notions that belong to the union of the soul with the body, apart from those that belong to the body only, or to the soul only. For this purpose, what I wrote at the end of my reply to the six objections may be of some use; for we cannot seek these simple notions elsewhere than in the soul, which has all of them in itself by nature, but does not always sufficiently distinguish them from one another, or else does not attribute them to the things to which they should be attributed. Thus, I think we have hitherto confused the notion of the force whereby the soul acts upon the body

with that whereby one body acts upon another; and that we have attributed the one and the other, not to the soul, for we do not yet know it, but to the different qualities of bodies, such as weight, heat, and other qualities, which we have supposed to be real—*i.e.*, to have an existence distinct from that of the body, and consequently to be substances, although we have called them qualities. And in order to conceive of them, we have sometimes made use of notions which are in us for the knowledge of the body, sometimes of those which are in us for the knowledge of the soul, according as that which we attributed to them was material or immaterial. For instance, in supposing that heaviness is a real quality whereof we have no other knowledge except that it has the power of moving the body in which it is towards the centre of the earth, we have no difficulty in thinking of how it moves such a body, nor of how it is united therewith; and we do not suppose that this occurs through some real connection or contact of one superficies with another, for our own experience tells us that we have a particular notion for conceiving it; and I believe we use such a notion wrongly by applying it to heaviness, which is really in no way distinguished from the body, as I hope to show in physics, but that it has been given us that we may conceive how the soul moves the body."[1]

Descartes finishes his explanation thus: "I should be too presumptuous, if I dared to think that my reply would fully satisfy Your Highness."

[1] *Lettres de M. Descartes*, t. i., No. 29, ed. Cousin, 1825, t. ix., pp. 125 *ff.*

In fact, Her Highness replied that she was not satisfied, and she asked for explanations on two points: first, as to the distinction between the three kinds of primary ideas used respectively for knowing the soul taken by itself, the body taken by itself, and the union between the soul and the body; next, as to the use of the comparison of heaviness for making the action of the soul upon the body better understood.

On the former point, Descartes replied that he "observes a great difference between these three kinds of notions, in that the soul can only be thought of by the pure intelligence; the body—that is to say, extension, form, and movement—may also be known by the intelligence only, but much better by the intelligence aided by the imagination; and lastly, the things pertaining to the union of the soul with the body can only be dimly known by the intelligence alone, and even by the intelligence aided by the imagination, but they may be very clearly known by the senses; and hence those who never think philosophically, and who only make use of their senses, never doubt that the soul moves the body and that the body acts upon the soul, but consider both to be one thing—that is to say, they think of them as united; for to think of the union between two things is the same as thinking of them as one thing. And metaphysical thoughts which call pure intelligence into play help to familiarize us with the notion of the soul; and the study of mathematics, which chiefly exercises the imagination in the consideration of forms and movements, accustoms us to frame perfectly distinct notions of bodies.

And, indeed, it is by simply making use of ordinary life and speech, and by abstaining from meditating upon and studying the things that exercise the imagination, that we learn to conceive of the union of the soul with the body."

Nevertheless, the philosopher ingenuously adds that the union of the soul with the body is something fundamentally inconceivable, and this reduces all his previous attempts at explanation to nothing. " I do not think," he says, " that the mind of man is capable of forming a clear and simultaneous conception of the distinction between the soul and the body, and also of their union; for, to that end, one must think of them as a single thing, and at the same time as two things, which is contradictory."

On the second point, Descartes' explanation goes so far as to attribute to the soul a certain extension, which results in the materialization of the soul and upsets the fundamental psychological theses he has hitherto maintained as to the incompatibility between thought and extension, between mind and matter.

" Since Your Highness observes," he says in conclusion, " that it is easier to attribute matter and extension to the soul than to attribute to it the power of moving a body or of being moved thereby, if it be immaterial, I beg you freely to attribute this matter and extension to the soul, for that is only conceiving it as united to the body; and after that has been well conceived and experienced in oneself, it will be easy to consider that the matter which you have attributed to this thought is not the thought itself, and that the extension of this

matter is of another nature than the extension of this thought; in that the former is determined to a certain place from which it excludes any other extension of the body, a thing which the latter does not do; and thus Your Highness will easily return to the distinction between soul and body, notwithstanding your conception of their union."[1]

Whereupon Descartes slips off with the excuse that he has to go to Utrecht, whither he is summoned by the magistrate to explain something "that he has written about one of their ministers." "This compels me to end now, as I have to try to find a way of getting free of their chicaneries as soon as possible."

Thus the anthropological problem remains unsolved. All Descartes' vain endeavours only brought out its insolubility more plainly. The problem cannot be answered because it is badly stated. Man is not a combination of two substances, whereof one is the thinking soul, and the other an extended body—*he consists of a single compound substance.*

[1] *Lettres de M. Descartes*, t. i., No. 30, ed. Cousin, t. ix., p. 127.

CHAPTER II

THE EVOLUTION OF THE CARTESIAN PSYCHOLOGY

We have seen how the psychology of Descartes resulted in a hopeless contradiction.

This contradiction was bound to arise from the opposition set up between the soul when reduced to being a substance without extension and the body regarded as an extended substance possessing nothing but mechanical motion.

We shall now see how the *exclusive Spiritualism* and the *Mechanism* (the spiritualistic and the mechanical theories) of the great French innovator continued to flow in different directions through the seventeenth and eighteenth centuries, until the different streams converged, and by their mingling gave rise to our contemporary psychology.

The stream flowing from the Cartesian *Spiritualism* divides at the outset and originates, on the one hand, Malebranche's *Occasionalism* and *Ontologism* and Spinoza's *Pantheism*, and, on the other hand, *Idealism*.

The stream derived from *Mechanism* broadens out under the twofold influence of philosophy and science, and impregnates our contemporary Idealism with *Positivism*.

I

Evolution of the Cartesian Spiritualistic Theory

Section I.—Occasionalism, Spinozism, Ontologism

Descartes' psychology contained the germ of Malebranche's occasionalist and ontologist philosophy.

It is impossible, says Descartes, to conceive of any *real* action of the soul upon the body or of the body upon the soul, for their two substances possess contrary properties that make their interaction incomprehensible. Is it not, then, natural to deny any such action and to maintain that when we feel as if we were controlling our members, the resultant acts are really the work of God, and when we think the soul is being influenced by animal spirits, such influence proceeds from God? Thus the soul's volitions become an *occasion* for God's causal operation upon the body, and the movements of the animal spirits become the *occasion* of an operation of God upon the soul, but the soul and the body have no real causality left.

But nowhere is the feeling of action more intense than in the commerce between soul and body. If, then, even there the feeling of action is illusory, it seems a legitimate inference to say that all the actions of created beings are but apparent, and that real causation is exclusively the work of the Creator.

What is, in reality, the action of a created agent upon the object acted upon, of a mover upon the

object moved? You grant that the mover has a substance of its own, and you also give a substance to the object moved: how can the first substance really act upon the second?

Do you think of some entity passing from the agent into the subject? Clearly not, for during the passage from one term to the other, where would this entity dwell? Would it have an existence of its own, as being a substance? Or would it exist as an accident, inhering in an intermediary substance? In either case the difficulty remains undiminished, for then an account would have to be given of the possibility of a real action of this *intermediary* substance upon the patient, just as at first an account had to be given of the action of the *first* agent upon a patient substantially different from itself.

According to Malebranche, this puzzling problem could only be cleared up in one way, that is, by considering created beings as *present* to one another, but without ascribing to them any reciprocity of action upon each other, their apparent activity being the work of God alone, owing to the *occasion* of their mutual presence.

Rather, according to Spinoza, should we do away with the substantial distinction between creatures, and say that there is *only one substance* endowed with thought and extension: with thought, in order to explain the action whereof the soul is conscious; with extension, to explain corporal movements. Thus we get rid of the problem of causal communication at a stroke.

But has it been got rid of? That is the question.

It matters little; just now it is enough to show that Descartes' exclusivist psychology implied the Occasionalism of Malebranche and the Pantheism of Spinoza.

Under the influence of the French innovator's same extravagant Spiritualism, Ontologism was bound to arise, and to contribute in turn to the birth of Pantheism.

We are now on the ground of ideology and criticism. Whence does the soul get its ideas of extension, form, and bodily movements? From itself? But the attributes of the soul are diametrically opposed to those of the body, and therefore cannot provide the idea of it. Or from the body? But the body is independent of the soul. What could it have in common with the soul? There remains God, the last refuge of ideology when at bay. The objects of the notions of extension, form, and movement are to be found in God, the pre-eminent source of all reality in things created, and there, in God, man's reason perceives them. Thus God alone accounts for the *origin* of our intellectual perceptions, and He alone accounts for their *certainty*.

We know already that, according to Descartes, certainty of the existence of God is involved in our notion of the perfect Being. Hence, Descartes has in one way or another to assign to man's intelligence an intuition of the Supreme Being. Furthermore, if the soul has no direct relationship with corporal things, and if, in itself, it finds no trace of any action by them upon itself, the certitude of

our external experience must have its basis in God alone. Therefore, from both points of view, the ideological and the critical, the existence and nature of our ideas of corporal things lead on logically to the affirmation of an immediate intuition of the Infinite.

Besides this, when Descartes wrote his *Discours de la méthode* and *Méditations*, the ideological theory of the Schoolmen about the abstraction of ideas had gone astray, and consequently the marks of the necessity, universality, and eternity of the object of thought, were easily confused with the divine attributes. In giving to Truth, Goodness, and Beauty their metaphysical characteristics, they imagined they caught sight of the divine ideas immediately and plunged directly into the depths of the Absolute.

Ontologism was born, and it marked out and cleared the path for *Pantheism*.

Section II.—Idealism

1. *The Birth of Idealism.*—Descartes' psychology developed in another direction in the cases of Locke, Berkeley, Hume, and Kant, and it gave rise to the idealist tendency that so deeply impregnates contemporary psychology.

Under the name of *Idealism* we understand the negation of the knowableness of anything except ideas, or, to put the same thing in an affirmative way, the affirmation of the unknowableness of anything except ideas.

Descartes is the father of Idealism.

We must, however, be still more definite.

Descartes' idealism was not universal, it was confined to things corporal. The reality of the thinking soul, the object of consciousness, the existence of a perfect Being, the immediate principle of the idea of the perfect, were not in dispute: the reality of the nature of the body was in question.

In fact, said Descartes, if bodies are perceptible by the soul, they must be able to act upon it; from the nature of the action experienced, the soul would then infer the nature of the agent: but how was a body, solely susceptible of motion and form, to act upon a spirit, the whole of the capacity whereof lay in thinking?

Again, supposing that such action were possible, of what use would it be? For after all, the body, as it is in nature, has extension, form, motion, and nothing else. But our representations of corporal sensations are notions of colour, sound, and affections of pleasure or of pain. What have these in common with one another?

Our soul is a harp the strings of which have been cunningly strung by nature. When the outside air strikes upon them, or the finger of the artist touches them, they vibrate and give forth harmonious tones. Are we to say that the breath of air or the artist's finger are harmonious? Plainly, no.

In the same way, the movements of the animal spirits, which are a sort of prolongation of the outward movements, are to the soul occasions for stirring it up to think; but the thoughts themselves, "the ideas of pain, colour, and sound, and of all sorts of such things," the term of the inner

sense or consciousness, are solely the work of the soul.[1]

Certainly, Descartes was bound to have a *something external*, an indefinite something, that awakened the power of the soul and made it pass into an act of knowledge, what Kant called a *noumenon*, a *thing-in-itself;* but since it is admitted that the body has no real action upon the mind that thinks, and that there is no more similarity between our representations and the movement that produces them than there is between the harmony of an instrument of music or the finger or the wind that

[1] " Whoever well understands how far our senses reach, and exactly what they bring to our thinking faculty, must admit that, on the contrary, none of our ideas of things are represented by them to us such as we form them mentally; so that there is nothing in our ideas which does not belong by nature to the mind or to its faculty of thought, if only certain circumstances belonging solely to experience be excepted. For instance, it is experience alone that makes us consider that such or such ideas as are now present to our minds refer to certain things which are outside of us; not that these things have been really transmitted to our minds by the organs of sense as we feel them, but because they have transmitted something which has given our mind, through its natural faculty, an occasion for forming them just now rather than at any other time. For, as our author affirms in his *nineteenth article*, in conformity with what he has learnt from my *Principles*, nothing can come into our souls from outward things through the senses, unless it be a few bodily movements; but neither such movements themselves, nor the shapes that arise from them, are ever conceived by us to be such as they are in the organs of sense, as I have abundantly explained in my *Dioptrics;* whence it follows that even the ideas of movement and shape are naturally within ourselves. And, *a fortiori*, the ideas of pain, colour, sound, and so forth, must be natural to us, so that our mind, on the occasion of certain bodily movements wherewith they have no likeness, may be able to make representations of them."—Descartes, *Lettres. Remarques sur un certain placard, imprimé aux Pays-Bas vers la fin de l'année* 1647. *Œuvres de Descartes*, ed. Cousin, t. x., pp. 94-96.

makes it vibrate, it is logical to infer that we only know our own ideas. This conclusion is the very definition of idealism.

One almost might have been tempted to think that Locke's empiricism would have indicated a reaction against the idealism of Descartes. Locke, indeed, took Descartes' innate ideas to task, but he did it unskilfully. The arguments of this English philosopher miss the point; they were aimed at the innate ideas as if they were *actual* perceptions. But Descartes never maintained the innateness of our *actual* ideas, but the innateness of our *power* to form them without the effective assistance of any activity apart from the soul. Hence Locke's efforts to maintain the part of sensible experience in the formation of our cognitions were bound to result in a way that their author never intended, and, as a matter of fact, they rather confirmed than invalidated the position of the Cartesian idealist.

Moreover, on the question of the unknowableness of substances, there is no essential difference between Locke and Descartes.

According to the *Essay on the Human Understanding*, there are two sources of our ideas, *sensation* and *reflection* — the former acquainting us with sensible qualities, the latter with the operations of the soul (mind); but all mental activity is confined to establishing between the simple ideas drawn from these two sources, relations of identity or difference, of agreement or disagreement, and the human understanding cannot go beyond the per-

ception and arrangement of these accidents. " Our specific ideas of corporal substances are nothing else but a collection of a certain number of simple ideas, considered as united in one thing."[1]

Locke even improves upon the Cartesian idealism. Descartes, indeed, had not thought of questioning the substantiality of the thinking " I." To the English philosopher the substantial reality of the soul is as doubtful as that of bodily substances. " For," he writes, " putting together the ideas of thinking and willing, or the power of moving or of quieting corporeal motion, joined to substance, of which we have no distinct idea, we have an idea of an immaterial spirit." But we have no distinct idea of a corporeal substance or of a spiritual substance. " The one is as clear and distinct an idea as the other. . . . For our idea of substance is equally obscure, or none at all, in both; it is but a *supposed I-know-not-what, to support those ideas we call 'accidents.'* "[2]

Thus Locke reduced psychology to the following terms: the sensible qualities of bodies and the operations of the soul are represented by ideas, some simple and others compound, between which the understanding establishes relations; and as the substratum of both he assumes an unknown support which he calls substance, matter, or spirit.

This unknown substratum of corporeal qualities is considered superfluous by Berkeley. This Irish philosopher does away with the substance of bodies

[1] *Essay on the Human Understanding*, Book II., Ch. XXIII., § 14.
[2] *Ibid.*, Book II., Ch. XXIII., § 15.

and leaves only spirit behind. One may contradict his premises, but given his acceptance of the idealism of Descartes and Locke, one cannot dispute the inevitability of his inference. " Sensible qualities," he says,[1] " are colour, shape, movement, smell, taste, etc. . . ., *i.e.*, ideas perceived by the senses. But it is inconsistent to put the existence of ideas in anything that is not actually perfect, *for to have an idea and to perceive are one and the same thing.* Therefore the subject in which are to be found colour, form, and other sensible qualities, must know them; and hence it is quite evident that there can be no *unthinking* substance. Therefore *matter* or bodily substance does not exist: only a thinking and consequently spiritual substance can exist."

Hume is still more radical. He does not admit of any kind of substance, going so far as to do away with " the unknown substratum of ideas " which is called soul or mind, and undertakes to set up a " psychology without a soul."

What Locke calls " ideas " is given by Hume the name of " *impressions*." The Scotch thinker means thereby the various states of consciousness. He calls sense-impressions " impressions of sensation," sensations or perceptions and considered impressions " impressions of reflection," inclinations or volitions " affections " or " emotions." As for " *ideas*," he regards them as weak reproductions of impressions or of reminiscences of former ideas.[2]

[1] Berkeley, *The Principles of Human Knowledge.*

[2] " I would fain ask those philosophers, who found so much of their reasonings on the distinction of substance and accident, and imagine we have clear ideas of each,

Impressions and ideas possess attractive properties in virtue whereof associative relations are set up between them, and there is no need to assume that this is the result of any activity independent of them. The object of psychology is to investigate the progressive organization of impressions and ideas, and the laws according to which they become associated to compose the syntheses, the sum-total of which we call the conscious soul or mind.

In Hume's psychology, idealism reigns universally. To him everything that is not an idea is unknowable. Nevertheless, the idealism of Hume, like that of his predecessors, is regarded by him as a *fact*, while to Kant it is the constituent *law* of the human mind.

Hume reached idealism by way of *induction*, Kant by way of *deduction*.

We saw how Descartes regarded bodily movements as only exciting causes of the soul's action, whereas he assigned to the soul a natural capacity for taking account of the distinctive characteristics of thought.

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whether the idea of *substance* be derived from the impressions of sensations or reflection? If it be conveyed to us by our senses, I ask, which of them; and after what manner? If it be perceived by the eyes, it must be a colour; if by the ears, a sound; if by the palate, a taste; and so of the other senses. But I believe none will assert, that substance is either a colour, sound or taste. The idea of substance must therefore be derived from an impression of reflection, if it really exist. But the impressions of reflection resolve themselves into our passions and emotions; none of which can possibly represent a substance. We have therefore no idea of substance, distinct from that of a collection of particular qualities, nor have we any other meaning when we talk or reason concerning it."—Hume, *Treatise on Human Nature*, Part I., § 6.

Kant took back to its starting-point this idea of the essential rôle of the *subject-soul* in the production of knowledge.

When passive impressions on the sensibility occur, the thinking subject has, according to him, its own mode of reacting; to the *data* of experience it brings its own formal elements (intuitions, categories, ideas), and from the synthesis of these forms *a priori* with the sensible impressions results the special character of cognitive acts. The notions of substance and of cause are the effects of similar syntheses of the categories of thought with phenomena; they are, then, *fabricamenta mentis, mental fictions* whereof we cannot assert the reality. If even corporal *noumena* escape our apprehension, far more do spiritual substances and the reality of the Divine Being transcend it, being beyond the scope of human knowledge.

Thus is idealism inductively and deductively established both by way of analysis and by way of synthesis; it is both the fact and the law of human knowledge. Henceforward it rules supreme in philosophic teaching. It is called phenomenalism in France, agnosticism in England and the United States, but underlying both names is a fundamentally negative doctrine concerning the root-incapacity of the human mind to go beyond its subjective ideas.

Idealism appears in the eyes of its professors, not as a philosophical system which is as good as or superior to any other, but as the supreme conquest of the mind. Many of our contemporaries are per-

suaded that Kant has set up the columns of Hercules of man's mind. Moreover, for them metaphysics, the last word of philosophy, has lost its original meaning. It no longer designates the knowledge of that which, either positively or negatively, transcends experience, but the science of the limitations of human knowledge, according to the words of the Königsberg philosopher: "The main and perhaps the only use of the philosophy of Pure Reason is, after all, entirely negative; for it serves, not as an instrument for the increase of knowledge, but as a discipline for establishing its boundaries. Instead of discovering truths, it modestly confines itself to the prevention of errors."

2. *The Origin of the Positivist Character of Idealism.* —We have just seen the genesis of contemporary idealism. It may be summed up in the statement that the soul draws its thoughts on corporal things from itself, on the occurrence of the motions of animal spirits (Descartes); in the statement that the soul knows only simple ideas and collections of simple ideas drawn, some from sensations, others from reflection (Locke); in the statement that all the soul's cognitions and that the soul itself are results of associations of psychological elements, kinds of atoms of psychological chemistry, according to the attractive affinities of similarity, coexistence, and succession (Hume); lastly, in the denial of the knowableness of all that goes beyond phenomena (Kant).

Is idealism, thus understood, materialistic or spiritualistic? It is neither the one nor the other, of necessity.

In the case of Descartes, idealism is clearly spiritualistic; it was not materialistic with Locke, since he recognized two sources of cognitions, sensation and reflection, and mind. It was spiritualistic to excess with Berkeley. Lastly, it was by no means materialistic with Kant, since he inaugurated a reaction against the empiricism of Hume and defended the necessity and universality of principles, especially of the principle of causality, against the Scottish philosopher.

How is it, then, that idealism, in France, England, and the United States as well as in Germany, has generally become *positivist?* By *positivism* is meant, according to John Stuart Mill, that system of philosophy which only admits of one way of thinking, *i.e.*, of knowing; the way of thinking positively, *i.e.*, the way of knowing by the senses.

Logically, there is no necessary connection between idealism and positivism. Assume that I could know nothing but my own *ideas*, there would remain the question of whence and what these ideas may be, whether they are material or spiritual, whether they come solely from the senses, or partly from the senses, partly from some suprasensible source.

Historically, we have just seen that there is no filiation from idealism to positivism. How is it, then, that idealists have generally given their philosophy a positivist character?

This truly curious phenomenon arises from two causes, one historical, the other scientific.

After Descartes, a current of sensationalism ran side by side with idealism, and it logically ended in materialism. This was the primary cause of the

influx of positivism into the psychology of the nineteenth century. With this we shall deal first of all.

Afterwards, in Article II., we shall consider the development of Cartesian Mechanism, and therein we shall recognize the second cause of the positivist character of modern idealism.

Before broaching this subject we will make a rapid sketch of the influence exercised by sensationalism on the positivist demeanour of modern psychology.

By *sensationalism* is meant that ideological theory which finds in sensation the one *source* of all knowledge.

Sensationalism is not necessarily materialistic, for one may admit that sensation is the one source of our cognitions, and nevertheless maintain that an immaterial principle exists, the function of which is to draw from that source the elements whose elaboration produces what we know.

Condillac teaches, in his *Traité des sensations* (p. 11), that "judgement, reflection, the emotions, in a word all the operations of the soul, are only different transformations of sensation." Sensation, then, according to him, is the sole source of all our perceptions; but sensation, if it is to become idea, must undergo a transformation, which the immaterial nature of the soul alone can effect. Although the immateriality of the soul is not repudiated, but rather asserted by the father of French sensationalism, it is nevertheless easy to see that he has gravely compromised it. In fact, if the goal of knowledge

does not go beyond the region of sensibility, why must the knowing subject be more than a purely sensible agent ?

Locke, more reasonably and carefully than Condillac, reserved to the soul a place that required its immateriality. By the side of sensations, in fact, he kept a place for " reflection," *i.e.*, for the knowledge of the operations of the soul, and he referred this knowledge to an immaterial mind. But, even in such conditions, the immateriality of the soul was getting to be doubtful. Locke's emphasis in distinguishing his position from that of Cartesian spiritualism and in bringing into prominence, for that purpose, the preponderating part played by sensation in our mental activity; his confusion between mental representation and sense representation, either of which he indifferently named *idea* or *thought ;* lastly, the hypothesis he loved to dwell on of a matter which acquired the power of thinking: all this singularly attenuated the respective characteristics of sensation and thought, of matter and mind, and facilitated the invasion of the sphere of psychology by materialism.

Hume showed more decision. He clearly laid down the identity of the phenomenon of consciousness, called an *impression* or *idea*, with the nervous process of the body. " If we regard the matter *a priori*," says he, " we must affirm that anything is capable of anything. . . . From the fact that we do not understand the *how* of causal operation, it does not follow that we have any right to deny it. Do we understand the law of attraction ? Nevertheless, we admit it.

"But, just as one movement follows another, so do changes of thought always follow certain changes in the movements of matter. Hence, we rightly regard the material changes that precede our thoughts as the *cause* of thoughts, for a cause is nothing but an antecedent that is constant."

But a fact that is caused by a material change is of the same material order as the fact itself. Hence it is natural to identify the conscious fact or thought with a nervous change which is itself a material form of existence.

Such was the favourable medium provided for the mechanical theory of Descartes in England and France.

On parallel lines with the evolution of the exclusively spiritualistic theory the mechanical conception of nature will henceforth develop in turn, and definitely stamp idealism with a positivist character.

We shall examine *Mechanism* first of all as a *philosophical conception*, and then as a *scientific theory*.

In order to solve the problem of the union of the soul with the body in such a way as not to compromise the distinction which he had set up between the two substances, Descartes placed in an infinitesimal part of the nervous substance a spiritual soul which had to set in motion, by means of the animal spirits, the nerves and muscles of the body, and thus to enter into relation with both the body and the external world.

In reality, since the soul has the power of forming

its own ideas; since it has not to receive any impression of them from outside, there is no need of setting up a distinction between soul and body and of making them meet together in the pineal gland in order to explain the origin of our ideas. From this point of view, the union of soul and body is useless.

The only reason for affirming the presence of an immaterial soul in the pineal gland is the need of explaining the movements of the body which we are conscious that we originate. The last stronghold of the Cartesian spiritualism, when confronted with the mechanical conception of nature, is here.

But is there any real need of an immaterial soul for this purpose? May it not be possible to replace the immaterial soul with the substance of the brain itself, or, in more general terms, by a mechanical agent? This hypothesis of the applicability of mechanical materialism to the control of the movements of the body has, apparently, the twofold advantage of *unity* and *simplicity*.

The human mind is naturally inclined to *unity*. Why should we wonder at it? Its function is to make abstractions and to generalize. But to generalize is to perceive the applicability of *one* predicate to an increasing number of subjects.

Descartes had already applied the predicates "extension," "shape," "movement," to all created beings, the soul only excepted. He had denied that there was any real difference between the corporeal phenomena of mineral substances, the vital phenomena of plants, and the phenomena of animal

life. He had therefore affirmed the substantial identity of substances as diverse in appearance as the mineral, vegetable, and animal worlds, including the human body. What, then, was more natural than to do away with the diversity between the phenomena of thought and the other phenomena of nature, and therefore to affirm the fundamental identity of bodies with the thinking soul? Was not this the naturally expected climax of the synthesis of the universe?

Why did Descartes "tack" a soul on to the human body? asks La Mettrie, who was quite ready to label himself a Cartesian. For extrinsic reasons, he replies, not to offend the clergy. For, if we see things as they are, the affirmation of an immaterial human soul is not justified, he says, in the Cartesian psychology. If we admit a mechanism of plants and animals, why not also a mechanism of mankind?

Doubtless the induction made by La Mettrie is not logical. There are in favour of the immateriality of the thinking soul reasons intrinsically different from those that are on the side of the irreducibility of the plant or the animal to simple pieces of mechanism. But it is none the less true that Descartes overturned all the barriers against the invasion of mechanical materialism except one, and thereby prepared men's minds to overcome this last obstacle.

Its *simplicity* is a second advantage of the mechanical hypothesis. The substitution of a material agent for the immaterial soul of Descartes enables one to

escape from many of the difficulties which the French philosopher's principles made unanswerable.

Descartes placed the immaterial soul in the pineal gland in order to give it thence control over man's bodily movements. But the soul's *mode of existence* in the substance of the brain—seeing that the soul's nature is thinking—is self-contradictory. Thought, as such, is not attached to any place, hence a thinking substance, as such, cannot be localized. Thus it was that Descartes told the Princess Elizabeth that we must think of the soul as endowed with a different kind of extension from that of matter, seeing that the latter excludes from where it is found all other extended matter, whereas the former does not exclude it at all.

Likewise the thinking soul's *mode of operation* for the production of bodily movements involves contradiction. In fact, according to the very principles of Cartesian mechanics, movement alone—so far as it is a secondary cause—can give rise to movement. But, by definition, movement is a change in the position of something movable or in that of its parts—*i.e.*, it is a change of shape. But a change of shape is only possible in an extended body. Hence, only an extended body is able to produce a movement, and consequently the soul, whose attribute excludes extension, cannot produce any movement.

Besides, the sum of movement in the universe is invariable. But, of two things one: either the setting in motion of man's body by the soul must be due to a production of movement without equivalent loss, and then the sum of movement in the universe would vary; or else the setting in

motion would be due to a production of movement with some equivalent loss of movement in the mover, and then the latter—now assumed to be able to lose in movement—could only be material. Therefore, unless we overturn this fundamental principle of Descartes' physics, the constancy of the sum of the world's movement, we must deny the immateriality of man's soul.

Doubtless attempts will be made to escape from this last inference. Clerselier, who was a Cartesian, made them. It is true, he said, that a movement must be created in order to set up a bodily movement; but, strictly speaking, the soul has not to start bodily movements, but only to control them.

Even if it be assumed, though it would not be correct to do so, that the power of the soul over bodily movements were exclusively directive, Clerselier's answer would afford no real way out. In fact, in virtue of the law of inertia, every moving body inevitably keeps moving in a right line as long as no contrary force changes its direction. Hence, to change the direction of the thing moved, as well as to make it pass from rest to motion, some mechanical act is required. Hence, the soul can only direct the movements of the body, if it can produce mechanical effects. Therefore the dilemma returns anon—either the soul produces mechanical energy without consuming any, and then the sum of the world's energies increases; or else, it consumes the same amount as it produces, and then its nature is not immaterial, but mechanical.[1]

[1] We need not put forward any solution of this difficulty; since, just now, our sole aim is to follow up the evolution of Cartesian ideas.

Let us now sum up this philosophical explanation of the mechanical theory in conclusion:

Sensationalism prepared men's minds for the identification of the phenomena of the nervous system with the phenomena of consciousness. Hume claimed that this identification presented no impossibilities in itself, but on the contrary that it was required by the constant conjunction of nervous changes with our thoughts.

But now, on the other hand, from the desire for unity and in order to escape the difficulties raised by the mode in which it was present, and the operation of the immaterial soul in the pineal gland, arose a tendency to substitute for the soul a substance able to fill a place and to be a source of mechanical energies.

Thus the thinking soul gets lowered by nature to material conditions, and becomes therefore subject to mechanical laws. But consciousness protests against the brutal negations of materialism; hence the endeavour to shroud in voluntary ignorance the problem of the nature of thought and of the soul that thinks. From this endeavour arises positivism.

Hitherto we have considered the Mechanism from the philosophic point of view. Confined by Descartes to vegetable and animal substances, it ended by being extended by his followers to human nature itself. Thus understood, the mechanical theory could cite in its favour its unity of conception; and by its simplicity it got rid of insoluble difficulties arising from the influence over bodily movements attributed to an immaterial soul by

Descartes' psychology, but after all it remained merely a philosophic *hypothesis*.

Nor from the narrower point of view of the science of physics did Cartesian Mechanism rise above the rank of mere hypothesis. Indeed, the reduction of all the phenomena of material nature to movement was hardly supported by Descartes by any attempt at observation. His affirmation of the conservation of the world's sum-total of movement was merely a deduction drawn from the immutability of the divine Being.

Therefore, philosophically and scientifically, the mechanical theory until the time of Descartes was only an hypothesis. It had no experimental foundation. Will it not be provided with this by the advancement of scientific knowledge ?

The mechanical theory may be reduced to these two propositions: The phenomena of the material world, if not all the phenomena of the universe, are modes of motion. In nature there is nothing but efficient causes; there are no final causes.

Now, these two propositions have apparently found an experimental foundation in the wonderful scientific progress made in the last hundred years.

First of all, physiology reduces the seemingly most mysterious phenomena of life to physico-chemical manifestations, enabling the mechanical interpretation hitherto applied to things inorganic to be extended to the domain of life. Next, Lavoisier demonstrates experimentally the conservation of ponderable matter amidst all chemical reactions. " Nothing is created, nothing perishes." Thermo-

dynamics shows that heat is not an indestructible and unchangeable fluid, as Newton supposed, but that it may be consumed in producing energy, and generated by the living power of a body in motion. One can fix the amount of heat required to produce a given unit of power, and inversely, the amount of mechanical energy to be expended to produce a given unit of heat, and thus a ratio between heat and mechanical energy is established. Mayer, Clausius, Joule, and Helmholtz have found out approximately, indeed, the mechanical equivalents of heat, or the heat-equivalents of power; Weber and Helmholtz the mechanical equivalents of electricity. Thermodynamics and electrodynamics, then, lead to the following general conclusion: If we mean by the term *energy*, living power, horse-power, heat, electricity, and, to speak more generally, all the mechanical, physical, and chemical forces of nature, we are justified by experiment in stating that all corporal energies have a mechanical equivalent. If they replace one another, that is done by a law of equivalence. Therefore, if we look at these energies as a whole, abstracting any other force outside their sphere, we may say that the play of nature's forces does not impair the sum-total of energy of the whole —in a word, that the sum of the world's energies is invariable. And then, joining together Lavoisier's principle with Mayer's, we may say: " The sum of the world's energies is invariable, as is the sum of the mass of the particles of matter that compose it."

Apparently, this is all that is required to convince us that the mechanical theory rests upon an ex-

perimental basis, and that its primary doctrine has been established so far as to be a scientific theory. Can science also be invoked for the negation of final causes ?

Teleology had become discredited by the jibes of Bacon as well as by the physical doctrines of Descartes. According to the English empiricist, experiment is the only way of getting any knowledge of nature, and experiment reaches efficient causes only. The search for final causes is, then, simply idle play, quite unworthy of science.

But, assuming that the study of final causes must be excluded from physics, ought it not to find a place in biological science ? Do not living organisms and the instincts of animals demonstrate the need of final causes ?

Charles Darwin tried, as we know, to give a mechanical explanation of the origin of species and of animal instinct. According to him, the environment modifies the organs accidentally; the organ generates function, function in turn reacts upon the organ and upon the whole organism, so that the formation and transformation of all organisms depend exclusively upon accidental influences, due to chance.

Thus, too, according to Darwin, action generates habit, and habit instinct, and most naturalists came to accept Darwinism.

Then the prestige belonging to the discoveries of thermodynamics and electrodynamics and to the original work of Darwin gave the two essential dogmas of physical and biological mechanicism at least an appearance of being scientific theory.

Cartesian physics banished final causes from the domain of inorganic matter, and reduced the study of the latter to a chapter in mechanics. The general tendency of Darwin's work was to banish them from the domain of life, thus making it easy to extend the *positivist* conception of nature to the living beings of both kingdoms. Could not this conception then be universalized by reducing the facts of history and sociology to natural phenomena which would be brought under the general laws of physical science?

The universal positivist conception of nature owed its origin to Auguste Comte. Haunted by general ideas of the progressive development of mankind, Saint Simon's old secretary pictured the history of man's mind as a progress from a *theological* to a *metaphysical* state, and from the latter to an exclusively scientific or *positive* state.

In the beginning, according to him, man sees nothing but extranatural causes of phenomena. At a single leap man's mind passes from the roughly-perceived fact to the supernatural cause, which effects and controls it by direct and continuous action. The ideal of the theological system is to explain things by the operation of a single being who is adorned with the name of Providence.

Then, by a modification which is merely of a secondary character, this providential God is changed into a number of abstract powers capable of producing phenomena, and thus we come to the *metaphysical* stage. But metaphysics no more explains anything than does theology. Both aim at the knowledge of causes which are beyond our reach,

and they replace the positive observations to which our nature bids us to submit, by wild leaps in the region of fiction or abstraction.

"Lastly, in the positive stage, man's mind recognizes that it is impossible to obtain absolute ideas, and abandons its quest of the origin and end of the universe and its desire to know the inner causes of phenomena to devote itself solely to the discovery of their true laws, that is to say, their invariable relations of succession and similitude, by the combined use of reason and observation. The explanation of facts, thus reduced to its true terms, is henceforward merely the connection established between particular phenomena and a few general facts, the number of which the progress of science tends constantly to reduce."[1]

Auguste Comte is persuaded that this law of evolution which he applies to history is verified in the life of each individual. Each of us is "a *theologian* in his childhood, a *metaphysician* in his youth, a *physicist* in his manhood."[2] Man's mind to-day has reached the fulness of the positive stage, the final one beyond which there is nothing better to be hoped for.

In fact, the theories of Laplace and Newton show us the succession and uniformity of all the phenomena of astronomy and physics: "the Newtonian law of gravitation proves to us, on the one hand, the immense variety of astronomical data as being one and the same thing looked at from various points of view, the constant tendency of all mole-

[1] *Cours de philosophie positive*, première leçon, pp. 4, 5.
[2] *Ibid.*, p. 7.

cules towards one another in direct proportion to their mass, and inversely as the squares of their distances; while, on the other hand, this universal law is presented to us as the simple extension of a phenomenon with which we are thoroughly familiar, and therefore regard as perfectly well known—*i.e.*, the heaviness of bodies on the face of the earth."[1] Furthermore, one gets a glimpse of the time when chemistry and physiology will connect their subject-matter with the other branches of knowledge. Then there will be one thing left to seek. After having established celestial and terrestrial physics, whether mechanical or chemical, and organic physics, whether vegetable or animal, there will remain the establishment of the physics of sociology. " This is the only lacuna to be filled in order to put the crown upon positive philosophy."[2]

Comte flatters himself with the hope of filling up this lacuna, thus universalizing the positive conception of knowledge. "Such," he says, "is the first object of the course I am inaugurating, such is its special aim." Mark well, however, that he does not think that it is the mission of positive philosophy to form such a universal synthesis as was afterwards attempted by Herbert Spencer, a synthesis in which " all phenomena are regarded as the effects of a single principle, as subject to a single law. . . . I believe that the mental resources of man are too weak, and the universe too complicated for such scientific perfection achievement ever

[1] *Cours de philosophie positive*, première leçon, pp. 14, 15.
[2] *Ibid.*, p. 22.

to be attained by us. . . . In any case, I think it is evident that, having regard to our present state of knowledge, we are far off the time when any such attempt can be reasonably expected."[1]

Comte's ambition did not go beyond observed facts. From this point of view, his choice of the term positive *philosophy* to indicate the final end of his labours is not a happy one. This word is too apt to suggest the thought of a knowledge other than that of positive science. But, according to Comte, philosophy is only physics pushed to the ultimate extreme of its generalization. " If we could one day hope to attain to this universal explanation "—which he has only just characterized as eminently chimerical—" it is only to be done by bringing all natural phenomena under the most general of known positive laws, the law of gravitation, which already connects all astronomical phenomena with a part of those of terrestrial physics."[2]

The first condition of the formation of the positive philosophy is the division of labour. But, however necessary this division may be, it gives rise to serious drawbacks which must be counteracted as far as possible. It is to be feared that man's mind, by dint of specialization, may get lost in the maze of such labours in detail. Hence one must have recourse to a new order of studies to prevent the dissipation of men's thoughts. But we cannot think of reverting to the antiquated idea that each human brain might claim to embrace the sum of

[1] *Cours de philosophie positive*, première leçon, p. 53.
Cours de philosophie positive, p. 54.

human knowledge; that would be to make man's mind take a retrograde step.

"The true way to get rid of the vexatious results of extreme specialization consists, on the contrary, in perfecting the division of labour. It will suffice, indeed, to make one more special science including the study of scientific generalization."[1]

[1] "Let there be a new class of scholars, prepared by suitable training, which without giving itself up to the cultivation of any one particular branch of natural philosophy, will devote itself entirely, in considering the different positive sciences in their actual state, to determining exactly the spirit of each one of them to the discovery of their mutual relations and connections, and to summing up, as far as possible, all their special principles under a smaller number of common principles, always in conformity with the fundamental maxims of the positive method. At the same time, let there be other scholars who, before undertaking their own special studies, are fitted by training in the sum-total of positive sciences, to take immediate advantage of the light shed by these scholars who were devoted to the study of generalizations, and mutually to correct one another's conclusions, a state of things which the scholars of to-day are visibly coming to realize more and more. These two great conditions once fulfilled, and it is plain that they can be, the division of labour in the sciences will be pushed without risk as far as the advance in the various branches of knowledge requires. When there is this distinct class, incessantly controlled by all the others, having as its special and permanent function the connection of each new and particular discovery with the general system, there will be no reason to fear that a too great attention to detail may hinder a proper consideration of the whole. In a word, the modern organization of the learned world will then be completely established, and will only need to advance indefinitely, always retaining the same character.

"Thus to make the study of scientific generalizations a distinct department of the general intellectual work, is simply an extension of the application of the same principle of division which has been used to separate the various special departments; for, so long as the different positive sciences were but little developed, their mutual relations could not possess enough importance to give rise, at least to any

The new rôle of philosophy is thus clearly defined. Natural phenomena are accessible to man's mind, and nothing else is. But natural phenomena are those that depend on matter and force, and we know no other sort of phenomena.[1] Hence positive science deals exclusively with the phenomena of matter and with the laws that govern them.[2] And positive philosophy can be nothing but the discovery of the highest scientific generalizations.

Hence there can no longer be any question of final or efficient causes, of the nature of things, and of their properties. " All sciences in the positive

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permanent extent, to a particular class of work, and at the same time the need of this new study was much less urgent. But to-day, each of the sciences has taken a sufficient range of its own for their mutual relations to permit continued attention, at the same time that this new order of studies is becoming indispensable to prevent the dissipation of human thought."—*Cours de philosophie positive*, pp. 30, 31.

[1] " How are we to define human knowledge ? As the study of forces belonging to matter, and of the conditions or laws of such forces. We know only matter and its forces or properties, we know neither matter without forces or properties; nor forces or properties without matter. When we have discovered a general occurrence in one of these forces or properties, we say that we are in possession of a law, and immediately this law becomes a mental power and a material power for us; a mental power, because in our mind it becomes a logical instrument; a material power, because in our hands it becomes a means for the control of natural forces. . . . In history, the matter or substratum is the human race, divided up into societies; force is represented by the aptitudes inherent in societies, the foundation of which lies in this condition, that scientific ideas can be accumulated. So long as that is not acknowledged, history does not seem to be a natural phenomenon; its substratum, which is the human race, is known, but its force, which causes it to evolve, is unknown." —Littré, *Auguste, Comte et la philosophie positive*, p. 42, (Paris, Hachette, 1864).

[2] *Cours de philosophie positive*, p. 43.

stage," writes Littré, "abandon the search for the essence of things and their properties, first and final causes—*i.e.*, what metaphysics terms *the absolute*. Positive philosophy, which is their daughter, abandons these things as they do. The philosophers of the past would have regarded as a chimera any philosophy which did not deal at all with the absolute; to-day, we should regard, and we begin to regard, as a chimera any philosophy that is not entirely devoted to the relative. Such is the immense mental revolution wrought by M. Comte."

The sole means of acquiring knowledge is, moreover, external observation. "Direct observation of the mind by itself is pure illusion."[1] The reason why the subject cannot observe itself is that the subject—Comte postulates this *a priori*—can only be an organ of the body. But a bodily organ cannot know itself. "The thinker cannot divide himself into two parts, one of which reasons, while the other looks on at its reasoning. The observing and the observed organ being, in this case, identical, how could observation take place?"[2]

Thus Comte's philosophy, in all its clearness and breadth, is plainly the positivist conception now everywhere prevalent along with idealism in contemporary philosophies.

What are these philosophies? How do they fuse together Idealism, Mechanism, and Positivism?

To answer this question, let us examine the works of the masters of contemporary psychology and look at the present state of philosophical investigation.

[1] *Cours de philosophie positive*, p. 35.
[2] *Ibid.*, p. 36.

CHAPTER III

CONTEMPORARY PSYCHOLOGY

I

The Insufficiency of Positivist Idealism for the Solution of the Fundamental Problems of Psychology

Vain are the attempts made to persuade us that the search for the absolute is a chimera. Man's consciousness invincibly affirms the existence of the noumenon beyond the phenomenon, a mover prior to the movement, of the thinking Ego beyond the transitory occurrence of thought.

The *physical* and the *mental* stand in opposition to one another beneath the mind's eye. Vain are the endeavours to identify them, and vain is the affirmation that nerve-change and conscious act are the two aspects—one external, the other internal—of one and the same phenomenon, expressible in the terms of mechanics. Consciousness refuses to accept the strained identification and repudiates such interpretations.

The properties of movement are velocity and direction, the property of thought is being representative; is there nothing in common between the former and the latter?

Do we not recognize the essentially irreducible character of the facts of consciousness when we make consciousness to be the inner side of a phenomenon which, seen from without, is a nerve phenomenon? For, apparently, it is not a matter of indifference whether a mechanical phenomenon, either of physics or of chemistry, has or has not an inside and an outside, an inner aspect and an outer aspect. Such and such a reaction occurring in a laboratory of biological chemistry depends exclusively upon outward observation; the same reaction occurring in the nervous system arouses a conscious representation. Is it not perfectly plain that in the second case there is something of *another kind* than there was in the first, a hyperphysical, hypermechanical property, which we do well to name a *conscious*, *psychic*, or *mental* element?

But, it may be asked, could one not suppose that *all* physical phenomena have a mental aspect? Then the mental aspect would be essential and universal, always parallel to the physical aspect, as the convex is always the double of the concave. Thus, says Fouillée, we avoid the miraculous theatrical effect whereby feeling suddenly "appears" amongst the results of physical evolution.

This is a vain way out of the difficulty. The arbitrary assumption that the mental is to be found everywhere does not explain why nor how it occurs anywhere. If the twofold aspect cannot be reduced to mechanical unity in the case of animals and men, still less is it reducible to unity in the whole world of natural beings.

Furthermore, above the general phenomenon of

consciousness common to man and animals, which is improperly called " consciousness " or " thought," there are *consciousness* and *thought* properly thus named which, by reason of their abstract character, dominate all concrete existence, all exclusive localization in space, all registration in time. But a mechanical phenomenon can only be the manner of existence of some concrete thing moved, definitely belonging to a given place, manifesting itself at a given moment of time. Therefore thought cannot be identified with a mechanical phenomenon.

Physical events are adequately determined by their material antecedents. But consciousness testifies that in us there take place acts the material antecedents of which are not the adequately determining reason. These acts mankind calls *free*. Hence the free act is not of the same nature as a mechanical phenomenon.

We may recall Hume's objection: that we do not understand how the earth's attraction causes the fall of bodies, but the fact is there, and we accept it. Why should not the body be the cause of thought as well as of motion ?

Besides, thought is always accompanied by some nervous change, and causation merely means constant conjunction. Is it not, therefore, reasonable to think and right to say that nervous change is the cause of thought ?

It may be replied that the inner nature of attraction is doubtless unknown to us, and we cannot surely tell how the earth attracts bodies and makes them fall. Newton, too, spoke of the phenomenon of the fall of bodies with the circumspection of a

scientist who is aware of the limits of his knowledge; bodies fall, he said, *as if* the earth attracted them.

Thus, the law of gravitation expresses the conjunction of two phenomena, the falling of bodies and the presence of the earth's mass, and the dependence of the first phenomenon upon the second; it must tell us no more than that.

If we were within the mass which attracts, and were conscious of the drawing power, probably we might be able to tell somewhat more. The idea of gravitation might be put alongside with the idea of the movement of the attracted bodies, and our consciousness might decide whether they were or were not incompatible.

But we are at the centre of the reality that knows, thinks, and freely decides; we are this very reality, and observe our own perceptions, thoughts, and free decisions. We are then in a position, and have the right, to ask ourselves whether the attributes of the bodily phenomenon and those of our thought can be identified, or if they exclude one another. As we see them exclude one another, we should misunderstand the protestations of consciousness, if we concluded to affirm their identity.

The falling of bodies is one fact, the presence of the earth is another; the observer ascertains the dependence of the first upon the second, and calls this *attraction*. The mind sees no reason to dispute the fact or the name given to it; it accepts them both without contradiction. But when we put together the fact of a thought and that of a nervous change, which is of a mechanical character, either physically or chemically, and the claim is made to

overstep the statement that the two facts are in each other's presence by saying that the two phenomena are only one, a thought with mechanical attributes, or a mechanical phenomenon with thought-attributes, the mind cannot but offer an invincible resistance, on the ground of the principle of contradiction and of sufficient reason, to this identification which it deems impossible.

Hume's vaunted fact of observation does not justify his conclusion. Yes, nervous change is in constant connection with thought, but what is the nature of this connection? Is the nerve-substance itself thought? Is it the formal cause of the phenomenon, or is it merely a condition of thought? More strictly speaking, is it only a partially efficient cause, insufficient unless helped by some higher principle?

At first sight, both explanations may appear to be equally possible. But, on reflection, in thought we discover characteristics which clash with the former hypothesis. Hence the second alone can be admitted, because it alone can be harmonized with the whole of the facts.

We must reject the identification which Hume tried to establish. The essential distinction between the phenomena "of consciousness" and corporal phenomena becomes plainer and plainer in so far as Idealism and Mechanism continue their parallel evolution.

Moreover, independent minds of the highest class in science and philosophy expressly assert the

insufficiency of the mechanical theory for the solution of the problems of psychology.

There is Dubois-Reymond's famous address at the general Congress of Naturalists at Leipzig in 1872:

"No arrangement," he said, "no imaginable movement of the particles of matter can help us to understand the region of consciousness. . . . What connection could one possibly imagine between determinate movements of determinate atoms in my brain and facts as primary and indefinite, though undeniable, as the following: I feel pain or pleasure; I taste sweetness, I smell the scent of a rose, I hear the sound of an organ, I see something red? It is, however, absolutely and always unthinkable that it should not be a matter of indifference to atoms of carbon, hydrogen, nitrogen, oxygen, etc. . . . whether they exist now, or have existed previously, or will exist in future, in this or that determinate condition of place or of movement. . . . Therefore, it is radically impossible to explain by any mechanical combination whatever why a chord of the octave pleases me, or why, on the contrary, touching hot iron hurts me. No thinker could tell me, in the name of 'astronomical' science forecasting the material issue in these two instances, which would be the agreeable and which the disagreeable experience. . . . That it is completely impossible to-day, and that it will always remain impossible, to understand *mental* processes by means of the mechanical action of the atoms of the brain, is a truth that requires no explanation."[1]

The scientific and philosophic thinkers of eminence

[1] *Die Grenzen des Naturerkennens*, p. 37 (Leipzig, 1884).

in France, England, and Germany to-day, energetically protest against identifying matter and thought.

" Those systems that desire to reduce everything to a set of *quantities*, and *relations* between such quantities, are chimerical," writes A. Fouillée.

" From a quantitative point of view, the world appears to be reducible to an objective combination of movements; from a qualitative point of view, to a subjective series of sensations: but *quality* cannot be the result of a mere difference in the number and position of units quantitatively equal or qualitatively null; it cannot be a simple form of quantity; rather is it quantity itself that is a kind of primary quality."[1]

Elsewhere, speaking of the endeavours of the mechanical synthesis of Herbert Spencer, the same writer remarks:

" This hypothesis explains the course of cosmic occurrences in the terms of matter—atoms, movements, forces, repulsions, attractions, etc.—up to the point where materialistic expressions fall short; then comes a mental terminology (sensations, sentiments, feelings, etc.) which is required for other explanations. Thus the philosopher is driven to begin his explanations from one point of view, and to finish with two. This is what Spencer does in his *First Principles* and in his *Biology*. Nature, which is one at the outset, becomes twofold, and takes two aspects on the appearance of animal life. How can the second aspect be accounted for? How came the purely unconscious to acquire a ray

[1] *L'évolutionnisme des idées-forces*, Lib. II., Ch. III., 1. Cf. *La liberté et le déterminisme*, 2e partie, Ch. VII.

of consciousness? Does this ray fall from above, for it throws light upon the course of occurrences without in any way altering it? And how is it that necessity has thus given rise to something that is superfluous? The answer is all the more impossible, because Spencer regards consciousness as being of quite a different order and region from movement. He confesses that thought is not and never will be deduced from movement, and that we might know all present, past, and future movements in the world without being able to deduce thought from them. If this is the case, the mental cannot be *involved* in factors which, *ex hypothesi*, are entirely mechanical, nor can it be an *effect* of causes from which it cannot be proved to depend. Hence, when you find feeling 'appearing' among the results of physical evolution which was previously insensible, you are driven to perceive that the limits of your primary factors have been exceeded. You are forced to recognize something more than you supposed to be among your original factors. Spencer put amongst his first data nothing but 'molecular attractions and repulsions'; he describes the entire evolution of biology with the sole help of these terms of matter, and then, when he has once reached animal life and man, he finds something quite new—*i.e.*, feeling, or sensibility. Then he has good reason to exclaim, as Guthrie observes: 'I am better off than I expected. I thought I had nothing in hand but movement and matter, and here is mind!'"[1]

[1] A. Fouillée, *L'évolutionnisme des idées-forces*, p. 22 and pp. 260, 261.

Moreover, Herbert Spencer himself confesses that between nervous phenomena and psychological occurrences it is impossible to establish or even to conceive any community of nature. He devotes the opening chapter of his *Principles of Psychology* to a study of nervous phenomena, and when it is finished, this is how he writes:

"There lies before us a class of facts absolutely without any perceptible or conceivable community of nature with the facts that have occupied us. The truths here to be set down are truths of which the very elements are unknown to physical science. Objective observation and analysis fail us; and subjective observation and analysis supplement them."[1]

An original thinker, whose reputation has received a tardy appreciation from the pioneers of the spiritualistic renaissance, M. Durand de Gros, for half a century has devoted all his scientific and philosophic energies to combating the positivist materialism of French medical scientists.

Must one take sides, he writes, with the favourite solution adopted by most scientists and medical men, by regarding life as merely a mechanical result, reducing its functions to the play of its various organs, thinking thus by successive identifications to resolve psychology into physiology, and the latter into chemistry or physics, and these again into simple changes in space, into movement and extension?

A strange answer indeed, for it consists in misunderstanding the question at issue. Is it really life and mind which are thus reduced to chemical

[1] *Principles of Psychology*, Part I., Ch. VI., § 41.

or mechanical phenomena? No, these are never any more than the material concomitants. And then, by a peculiar aberration, one gets to confound the subjective with the objective, to overlook "a principle which is as clear as daylight, that every sensation presupposes a feeling subject, a form of consciousness." In no way "can the essential agent of thought, the Ego, be identified with some finite extension, some series of points, with a body, with matter."[1]

When W. Wundt draws up the general conclusions of his *Physiological Psychology*, he passes this severe sentence upon materialism:

"Materialism regards what is psychical as a *function* or *property* of organized matter, just like any other physiological function, the contraction of a muscle, the generation of heat, etc. In all of them there is nothing but the movements of material elements.

"But *the starting-point and the conclusions of this theory are equally defective.*"[2]

We will not follow out in detail the consequences of Wundt's line of thought, but of his criticism, as of that of Dubois-Reymond and of Fouillée, we will note the conclusion, that the mechanical materialist cannot supply any solution of the essential problems of psychology.

Deep within them thinkers feel that we shall have to come back to a philosophy wide enough to

[1] Durand de Gros, *Essais de physiologie philosophique*, p. 116.

[2] W. Wundt, *Grundzüge der physiologischen Psychologie*, II., p. 532 (Leipzig, 1887).

find a place for the soul. What is this philosophy to be ?

This leads us to speak of the philosophy of Herbert Spencer, of A. Fouillée, and of W. Wundt.

II

Masters of Contemporary Psychology

Herbert Spencer

Herbert Spencer[1] is an astounding man.

He assimilated everything that our time has brought forth in the domain of physical, chemical, biological, moral, and economic science. He knew mathematics and mechanics. He followed up the genesis and development of public, social, and religious institutions amongst the various races of mankind. He was *au courant* with philology, literature, and art, and took a close interest in the economics and politics of his own country. The knowledge accumulated in his *First Principles* (1862), *Principles of Biology* (1864-1867), *Principles of Psychology* (1855), *Principles of Sociology* (1876-1896), *Principles of Ethics* (1879-1893), and in the vast collections of *Ritual, Political, and Ecclesiastical Institutions* (1879-1885), published under his editorship, borders on the prodigious. And when we speak of " accumulated knowledge " in all the volumes that make up his *System of Synthetic Philosophy*, do not suppose we have any intention of depreciating him. The scientific knowledge of this English man of science

[1] Died at Brighton, December 8, 1903, aged 83.

is neither superficial nor incoherent; it is abundant and closely knit, but arranged in order with steady continuity of thought, and it provides the prolific author at the proper moment with unsuspected comparisons and striking analogies.

Nevertheless, Spencer is not a scientist in the specialist sense. His name is linked with no discovery. He is not a geologist like Lyell, nor a botanist or zoologist like Darwin, nor a physiologist like Huxley; but he assimilates the knowledge which he has acquired with extraordinary facility, without any anxiety to further its progress. He is rather eclectic than original.[1]

His dominating idea is neither the fact nor the idea considered apart, but their adaptation to a system, their architectural arrangement. In his youth he dreamt of a synthesis of the cosmos fitted to the present state of scientific knowledge, of a new "synthetic philosophy."

By nature he was predisposed for the part he has played in science. By temperament he is a man of peace. The British impassiveness of his countenance reflects a desire for unity, which calls forth the following fine and benignant utterance to be found on the first page of his *First Principles:* "We too often forget that not only is there 'a soul of goodness in things evil,' but very generally, also, a soul of truth in things erroneous."

Herbert Spencer's philosophy is an original co-

[1] After a new examination, we think we must maintain the above estimate despite the observations to the contrary addressed to us by the English scientist in 1898 in a letter, written in a very kindly spirit, on the subject of the first edition of this book.

ordination of all the ideas circulating in the nineteenth century, from the time of the idealism of Hume and Kant down to the pantheism of Hegel, with the mechanical tendencies started by Descartes, the positivist misgivings of Comte, and the evolutionist aspirations of Charles Darwin.

Herbert Spencer begins with the most absolute idealism.

"The first step in a metaphysical argument, rightly carried on, must be an examination of propositions for the purpose of ascertaining what character is common to those which we call unquestionably true, and is implied by asserting their unquestionable truth. Further, to carry on this inquiry legitimately, we must restrict our analysis rigorously to states of consciousness considered in their relations to one another; wholly ignoring anything beyond consciousness to which these states and their relations may be supposed to refer."[1]

To Spencer, idealism is represented by two masters—Hume and Kant. Kant's idealism is based upon subjective mental forms, the intuitions of space and time, and the act of cognition essentially implies a power of reaction in the subject to adapt these subjective forms to the impressions provided by our sensations.

Hume attributes to the mind neither *a priori* forms of thought, nor any kind of active power. The thinking subject has impressions, and these are organized according to their similarities or differ-

[1] *Essays*, Vol. II., p. 204. Mill *versus* Hamilton—"The Test of Truth."

ences, their priority or succession, and the mind itself is but the result of this progressive and automatic organization.

No one has demonstrated the inanity of the Kantian forms of space and time better than Spencer. "The proposition on which the Kantian doctrine proceeds, that every sensation caused by an object is given in an intuition which has Space for its form, is not true. . . . He (Kant) says: 'We never can imagine or make a representation to ourselves of the non-existence of space, though we may easily enough think that no objects are found in it.' Now this proposition may be disputed. . . .

"The Space which, as he (Kant) says, remains after we have conceived all things to disappear, is the Space in which they were *imagined*—the ideal Space in which they were *represented*, and not the real Space in which they were *presented*. The Space said to survive its contents is the form in which *reintuition* takes place; not the form in which *intuition* takes place. Kant says that *sensation* (mark the word) produced by an object is the matter of intuition, and that the Space in which we perceive this matter is the form of intuition. To prove this he turns from the Space known through our open eyes, and in which the said intuition occurs, to the Space known when our eyes are closed, and in which the reintuition or imagination of things occurs; and, having alleged that this ideal Space survives its contents, and therefore must be a form, leaves it to be inferred that the real Space has been shown to be a form which survives its contents. The Space we are conscious of in actual perception stands on just

the same footing with the objects perceived: neither of them can be suppressed from consciousness. So that if survival of its contents is the test by which 'a form' is distinguished, the Space in which intuitions are given is not a form.

"Still more obvious is a parallel criticism on the parallel reason given for asserting that Time is an *a priori* form of intuition."[1]

According to Spencer the mental forms of Space and Time are not primary but derived forms. The only true "form," either of the intuition, the understanding, or the reason, is the consciousness of likeness or unlikeness; and it is common to all the acts of the intelligence whatever. "The so-called mental forms, Time and Space, are the B of our alphabet; the A of our alphabet, by which the B becomes possible, is the consciousness of likeness and unlikeness; the C, D, E, F, etc.—the intuitions and conceptions presented and represented in Time and Space—are directly dependent on this consciousness of likeness and unlikeness, as well as indirectly dependent on it, through the derivative forms of time and space."[2]

With Kant, there is a doubt as to the nature of the mental forms called respectively intuitions, categories, ideas; the fact that some are attributed to the sensibility, others to the understanding, and the last to the reason, suggests that they belong respectively to the sensible and to the suprasensible order. But with Spencer, doubt is no longer possible. The primary form of likeness and unlikeness is common to all mental—*i.e.*, cognitive—acts what-

[1] *Principles of Psychology*, § 399. [2] *Ibid.*

soever; so that, as to the nature of the psychological factor of knowledge, Spencer joins hands with Hume, and with the latter proclaims that the element of consciousness belongs to the sensible order, and is to be identified with nervous phenomena. To both psychology is but the reverse side of physiology.

But if Spencer agrees with Hume as to the *nature* of acts of consciousness, does he also agree with him about their exclusively experimental *origin?* Does he not appear to admit, along with Kant, some transcendental element, an *a priori* form of likeness and unlikeness?

Kant and Hume are both right, and both wrong, answers Spencer. The elementary forms of consciousness are *a priori* to the *individual*, for they are given him along with his cerebral structure, but they are *a posteriori* to the *race*, for the cerebral structure of the individual of to-day is due to the experience of his ancestors and to a long biological evolution.[1]

Subjectivist idealism and sensationalist empiricism, or, as Spencer would say, the transcendental hypothesis and the experimental hypothesis, thus come to be reconciled on the ground of *evolution*.

Evolution! The word is Herbert Spencer's. From the year 1852—that is to say, seven years before the issue of the *Origin of Species* by Charles Darwin—this English philosopher conceived his "development hypothesis," according to which "vegetable and animal species arose from continual

[1] This distinction has been clearly brought out by St. George Mivart, *Essays and Criticisms*, II., p. 130.

changes arising from changes in their circumstances." The work of Darwin consisted in research for the *determinate* causes of specific transformations in organisms. We all know the learned naturalist's appeal to the power of " natural selection." An unlucky expression, writes Herbert Spencer, for it " connotes a *conscious process*, and so involves a tacit personalization of nature. By tacitly personalizing that aggregate of surrounding agencies which we call ' nature,' it introduces vaguely the idea that nature may select as a human breeder selects—can select and increase a particular quality; which is true only under certain conditions. Further, it raises the thought of choice—suggests the notion that nature may or may not operate in the alleged way.

" It was partly the consciousness that wrong ideas are called up in these ways, which led me, when writing the *Principles of Biology*, to substitute the phrase ' survival of the fittest.' "[1]

[1] " It has become apparent that the abstract formula expressing this transformation in all living things, also expresses the transformation which is, and has been, in progress everywhere. The Solar System in passing from its primitive state to its present state has exemplified it; and if we accept Lord Kelvin's conclusion respecting the dissipation of its energy and consequent ultimate fate, it will continue to exemplify it. The transformation of the Earth from those early stages in which its surface began to solidify, down to its present stage, has likewise conformed to the general law. Among living things it is conformed to not only in the unfolding of every organism, but also if we draw the conclusion pointed to above, by the organic world in general, considered as an aggregate of species. The phenomena of mind, in rising from its lowest forms in inferior creatures up to its form in man, and again in rising from the lowest human form to the highest, illustrate it. It is again illustrated by the successive stages of social

In any case, organic evolution, whether it be explained by natural selection or by some more general formula, such as adaptation to environment, is but an element of the Spencerian evolution, which has for its subject-matter the entire cosmic process, from nebular condensation down to the products of social life in civilized nations.

The mechanical character of evolution as described by Spencer is thus self-evident. Not only the differentiations of organic species and animal instincts, but the highest manifestations of human life, are so many transitory stages in the endless development of cosmic forces which played upon one another millions of centuries ago amidst the earliest nebulae. And this development is independent of all internal finality; it is the inevitable result of antecedents determined solely by "circumstances"—*i.e.*, by chance—in their government and activities.

It is the office of this mechanical evolution,

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progress, beginning with groups of savages and ending with civilized nations. And we see it no less displayed in all the products of social life—in language, in the industrial arts, in the development of literature, in the genesis of science. . . .

"It (the Doctrine of Evolution) has for its subject-matter the entire cosmic process, from nebular condensation down to the development of picture-records into written language, or the formation of local dialects; and its general result is to show that all the minor transformations in their infinite varieties are parts of one vast transformation, and display throughout the same law and cause—that the Infinite and Eternal Energy has manifested itself everywhere and always in modes ever unlike in results but ever like in principle."—*Essays*, I., pp. 503, 505. The quotation in the text is from *Ibid.*, p. 493, "Lord Salisbury on Evolution."

according to Spencer, to reconcile the experimental hypothesis of Hume with the transcendental hypothesis of Kant as to the primary origin of the facts of consciousness.

Hume regarded " impressions," Kant " the passive phenomena of sensibility," as the primary data for the mind to work on. Neither of them took any particular care to discover the source of the raw material which they were thus able to deal with. Herbert Spencer, less exclusively introspective than Hume, less deductive than the great German critic, better trained than either of them in the observation of nature, immediately inquires into the genesis of the objective elements present in consciousness, and ascribes their origin to earlier phases of cosmic evolution.

He sees that man's mind was not at the outset a *tabula rasa,* for every *individual* inherits the accumulated experiences of his ancestors, and therefore there is some truth in the doctrine of Kantian idealism as to *a priori* forms, but the cerebral structure of the individual at birth is the heritage of the experience of the past. Hence there is nothing in the mind of the *race* that is not the result of experience, and in this sense the *a priori* position of the German philosopher is counterfeited.

Thus, too, it is not correct to say that man's mind is originally undetermined as to the associations of its states of consciousness, and in this sense Kant is quite right in treating it as purely receptive; but, on the other hand, the laws according to which the elementary data of consciousness are arranged are the result of observations accumulated in the past,

and in this sense Hume is right in not calling by the name of "soul" the active principle which is distinguished from the impressions revealed by our states of consciousness.

Thus Herbert Spencer makes no more than a provisional concession, which is more apparent than real, to the "transcendental hypothesis," and his *ideology* is fundamentally the same as Hume's. The Scottish philosopher takes conscious "impressions" as his point of departure; Herbert Spencer finds their origin in the factors of cosmic evolution; but to both master and disciple conscious states, regarded in themselves as they are found in the individual of to-day, are nervous facts, automatically associated and organized, and man's mind is the passive result of their progressive organization.[1]

Thus Spencer's *ideology* does not differ fundamentally from Hume's "experimental hypothesis." How does he answer the *criteriological* problem? What *value* does he assign to the testimony of consciousness?

In other words, what is, according to Spencer, the objective bearing of our states of consciousness? What is the bearing of their relations?

When we make a statement, he says, the terms of

[1] "Impossible as it is to get immediate proof that feeling and nervous action are the inner and outer faces of the same change, yet the hypothesis that they are so harmonizes with all the observed facts; and as elsewhere shown (*First Principles*, § 40), no other verification is possible for us than that which results from the establishment of complete congruity among our experiences."—*Principles of Psychology*, § 51.

the proposition are the translation of two states of consciousness. The proposition itself either connects them or disconnects them.

The first question to clear up, is to find out what is the nature of the relation established by the proposition.

Let us start with some facts. Suppose the following are the propositions: The bird was brown—The ice was hot—The pressure of a body is exerted in space—Movement implies something which moves.

I can easily associate the attribute *brown* with the subject and the group of attributes denoted by *bird*, but I can quite as easily dissociate the attribute *brown* from the group of associations awakened by the name *bird* in my consciousness. If anyone were to tell me: " The bird was *necessarily* brown," that would be enough to call up to my consciousness an image of a yellow or a green bird. The connection between the states of consciousness expressed respectively by the attribute *brown* and by the subject *bird* is therefore not indissoluble.

But when the statement is made in my hearing that " The ice was hot," it is difficult, it may even seem impossible, for me to associate with the group represented by the subject *ice* the attribute *hot*. The sensation of *cold* is so strongly connected with the perception of *ice* that my first endeavours to separate the two terms *ice* and *cold* are in vain. If, however, by an effort of imagination I think of a temperature which would freeze water but yet be higher than that of the blood in my body, I succeed in breaking up the association of the states of consciousness denoted by the words *ice, cold ;* in re-

placing it by the new association, *ice, hot.* My inability to think " The ice was hot " was, indeed, real at the outset, but it was only relative.

On the contrary, in stating the propositions: " The pressure of a body is exerted in space, movement implies something which moves," the necessity I experience is absolute, and it is proved by my inability to break up the association of my conscious states, which are represented by the terms of these two propositions, for my endeavour produces no result at all. Therefore the contradictory of these two propositions is unthinkable.

Now, says Spencer, a proposition is certain, when there is an indissoluble connection between the states of consciousness expressed by its two terms. The means of finding out the indissolubility of the connection between several states of consciousness, is to endeavour to break up the connection found in consciousness and to substitute the contradictory connection. The unavoidable checking of such efforts is the touchstone of certitude.

Hence Spencer concludes that the criterion of the truth of a proposition is the inconceivability of its contradictory.

It has often been said that Spencer's criterion is entirely *subjective.* And, indeed, in the *Principles of Psychology* there is more than one passage that justifies such a criticism, but it is certainly not in accord with the ultimate mind of the writer. In reply to John Stuart Mill, Spencer formulated his criteriological system more exactly. He openly repudiated subjectivism, and declared expressly that he regarded the inconceivability of the contra-

dictory not to be merely an expression of a purely subjective inability, but the result of experience.

I *conceive* without difficulty and *believe* without effort that one bird is brown, and another yellow, because it has been my experience to see sometimes brown birds, sometimes yellow birds. I do not say that the proposition, " The ice was hot," is inconceivable, because experience provides me with means for imagining the freezing of water at a higher temperature than that of my body, but I call the proposition *incredible,* because it is not in accord with usual experience, and therefore necessitates an extraordinary mental effort on my part.

On the contrary, the proposition, " One side of a triangle is equal to the sum of the two other sides," is not only *incredible,* but also *inconceivable.* As for the cause of the inconceivability of this proposition, it is only to be found in its being in disaccord with all our own observations and with the uniform and permanent results stored up by the experiences of the past in our cerebral structure.

If we reply with Mill, that the ancient Greeks thought the existence of the Antipodes was inconceivable, while we not only conceive but admit it, Spencer answers that inconceivability of the contradictory is not a critical rule beyond which there is no appeal. And who is to hear this appeal? He alone who is able to read his own consciousness, and to reduce its data to their simplest elements.[1]

In these conditions, Spencer's critical theory

[1] " In alleging that if a belief is said by some to be necessary, but by others to be not necessary, the test of necessity is thereby shown to be no test, Mr. Mill tacitly assumes that all men have powers of introspection enabling them

comes back to the classical thesis of the evidence of the objectivity of truth.

Doubtless sensible experience does not contain the only manifestation of the true. As to the *ideological* question of the *origin* of our states of consciousness, we part company with the English psychologist, but when the question is one of criteriology, when together with him we ask what is the value of the connection between our states of consciousness and whence they arise, our answer may be given in a form that does not differ essentially from the Spencerian theory: The facts of consciousness, when complex, should be reduced to their elements, and when these are absolutely simple, they need only be brought together to observe relations, some contingent, some necessary, arise between them; the evident manifestation of a relation of identity or of non-identity between two elementary facts of consciousness—*i.e.*, between two indecomposable concepts—being the ultimate element of sure science, the supremely controlling law of certitude.

Hence Spencer is no subjectivist. The *connection* which a proposition establishes between the states of consciousness represented by its terms depends objectively upon experience.

We then have to discover what is the significance of the *terms* connected together by the proposition.

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in all cases to say what consciousness testifies; whereas a great proportion of men are incapable of interpreting consciousness in any but its simplest modes, and even the remainder are liable to mistake for dicta of consciousness what prove on closer examination not to be its dicta."—*Essays*, Vol. II., p. 196.

In other words, are the elementary data of consciousness purely subjective states, or have they a real value? If some reality corresponds with our states of consciousness, is that reality phenomenal or noumenal?

Spencer's reply to these questions may be summed up in what he calls "transfigured realism," a hybrid kind of theory in which idealism, monism, and positivism of a mechanical sort meet together without finding any way of being compacted into a body of doctrine.

What is this "transfigured realism"?

In spite of his primary thesis, according to which our states of consciousness are "only subjective affections,"[1] Herbert Spencer professes *realism*, and he proves it *negatively* and *positively*.

His *negative* proof lies chiefly in an argument which he calls "the argument of priority." Suppose, says he, that realism was not yet satisfactorily established, still it should be preferred to idealism, for it is impossible to state, and *a fortiori* to prove, idealism, without presupposing and relying upon realism at every step. Hence the risk of error assumed to belong to realism will reappear, and that tenfold as often, in the idealist theory.[2]

Further, from the two points of view of "sim-

[1] *Principles of Psychology*, § 86, cf. § 87.

[2] Try, says Spencer, to oppose to the realism of the ordinary man your idealist conception of nature. You will find it impossible not to assume both in his case and in your own the very thesis of the realist which you desire to combat. "Tell him (any labourer or farmer) that the sound he hears from the bell of the village church exists in himself; and that in the absence of all creatures having ears, there would be no sound. When his look of blank amazement has waned, try and make him understand this truth

plicity" and of "clearness" the realist conception is preferable to that of antirealism.[1]

The *positive* proof is twofold. It arises at the same time from the analysis of consciousness and from the analysis of reality. The object of every act of consciousness appears to be determined; hence there is a more general reality, whereof the object presented to the consciousness is the limitation: consequently the possibility of consciousness is a proof of the existence of an absolute reality.

Furthermore, the consciousness of the Ego is conditioned by that of the non-Ego, and reciprocally, the consciousness of the non-Ego is conditioned by that of the Ego. But the absolute is unconditioned. Hence beyond the opposition of the Ego and the non-Ego, there is an absolute reality.

Lastly, science has proved that amidst all physical

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which is so clear to you. Explain that the vibrations of the bell are communicated to the air; that the air conveys them as waves or pulses; that these pulses successively strike the membrane of his ear, causing it to vibrate; and that what exists in the air as mechanical movements become in him the sensation of sound, which varies in pitch as these movements vary in their rapidity of succession. And now ask yourself, what are these things you are telling him about? When you speak to him of the bell, of the air, of the mechanical motions, do you mean so many of his ideas? If you do, you fall into the astounding absurdity of supposing that he already has the conception which you are trying to give him. By the bell, the air, the vibrations, then, you mean just what he means—so many objective existences and actions; and by no possibility can you present to him the hypothesis that what he knows as sound exists in him, and not outside of him, without postulating, in common with him, these objective realities. By no possibility can you show him that he knows only his sensations, without supposing him to be already conscious of all these things and changes causing his sensations."—*Principles of Psychology*, § 404.

[1] *Principles of Psychology*, §§ 407-412.

and chemical phenomena of nature, energy remains constant. Therefore energy is the true reality, and physico-chemical occurrences are only its phenomenal manifestations.

Therefore, concludes Spencer, " The assumption ' inevitably made in all reasoning used to prove the relativity of sensations,' is ' that there exist beyond consciousness, conditions of objective manifestation which are symbolized by relations as we conceive them.' "

But if he is a realist, Spencer does not range himself along with " the rough realism of the child or the savage," who not only believes in the existence of something real in contradistinction to thought, but naïvely thinks that he knows the things of nature as they are. No. " No relation in consciousness can resemble, or be in any way akin to, its source beyond consciousness." . . . " While *some* objective existence manifested under *some* conditions, remains as the final necessity of thought, there does not remain the implication that this existence and these conditions are more to us than unknown correlations of our feeling and the relations among our feelings. The Realism we are committed to is one which simply asserts objective existence as separate from and independent of subjective existence. But it affirms neither that any one mode of this objective existence is in reality that which it seems, nor that the connections among its modes are objectively what they seem. Thus it stands widely distinguished from Crude Realism: and to mark the distinction it may properly be called Transfigured Realism."[1]

[1] *Principles of Psychology*, § 472.

This abstract doctrine may be illustrated by an analogy. Let the reader recall the theory of perspective. He will remember that, when looking at anything out of the window—for instance, at a box resting on the ground—he is able, while keeping his eyes upon it, to trace upon the pane of glass, with pen and ink, dots each of which corresponds with one of the corners of the box, and then join together these dots with lines, each of which will cover one of the edges of the box. When this has been done, he has on the pane of glass an outline drawing, or what we call a perspective representation of the box. This represents its form, not as it is conceived to be, but such as it is actually seen. If he now considers the relation existing between this picture and the box itself, he discovers that the two things differ in several ways. One occupies a space of three dimensions, the other a space of two dimensions only; the relations between the lines of the one are not the same as the relations between the lines of the other; the direction in space of the representative lines are quite different from the direction of the real lines; the angles they make with one another are unlike, and so on. Nevertheless, the representation and the reality are so closely connected that the object, the conditions of visibility, and the intermediate pane of glass being given, no other picture was possible, and any change of place or distance in the object will inevitably be accompanied with a corresponding change in the picture of it. Here, then, we have a case of symbolization in which, in spite of the essential difference between the thing and its symbol, there is an exact, though

indirect, correspondence between the changing relations in the elements of the one and the changing relations in the elements of the other.[1]

We are therefore irresistibly driven to believe in the existence of a *certain objective reality*, manifesting itself in *certain conditions*, but we are obliged to remain in ignorance of the nature of this ill-defined reality. Such is the conclusion of psychology, and its inductions can go no further.

There remains, however, a fundamental problem. If we are in ignorance of the nature of objective reality, whence comes our ignorance? Does it appertain to the nature of the thing known, or to that of the subject that knows, or to that of both together?

This problem is fundamentally the one which, since Kant's days, has become the essential problem of metaphysics, the determination of the limits of human intelligence.

Kant sought to resolve it by an inquiry into the nature of reason in itself. Herbert Spencer, with more prudence, submits to analysis, not the faculty of knowing, but its acts, our cognitions. Kant inferred the unknowableness of "noumena"; Spencer, both inductively and deductively, the existence of a noumenal non-Ego, but the unknowableness of the distinctive nature of the noumenon, or noumena that compose it.

We have followed the English philosopher in the inductive analysis of his *Principles of Psychology*; let us now turn to his deductive work, as found in his *First Principles*.

The aim of his *First Principles* is to make a

[1] *Principles of Psychology*, § 473.

thorough inquiry into the primary notions of religion, science, and consciousness, in order to reconcile them with one another.

When Herbert Spencer comes upon the scene, what is the position of philosophic thought ?

Idealism is dominant in psychology and metaphysics. It appears to be recognized, along with Hume, that man's mind is pent up within its states of consciousness, and, along with Kant, that what is beyond phenomena is necessarily unknowable. In natural philosophy, the mechanical theory reigns supreme. Final causes are proscribed. All facts of physics, chemistry, biology, and even of psychology, are modes of movement. The world contains nothing but mechanical forces, transformable into one another without increase or diminution. The sum-total of matter and of energy is invariable.

It is, however, difficult not to believe in the independent existence of reality; as Spencer undertakes to show in his *Principles of Psychology*,[1] idealism cannot make itself understood nor prove its case without presupposing realism. Consciousness itself, in its own dicta, finds itself beating against barriers imposed upon it from without, and the feelings of the Ego bring out the reality of the non-Ego. And it is just as hard to get rid of the Absolute. All the races of mankind believe in it, and still believe in it to-day.

Religions which de Quatrefages, an anthropologist of the first class, regarded as so distinctive a trait of humanity, that he denied the existence, either historic or prehistoric, of a nation without a religion,

[1] See above, pp. 94–97.

live on the absolute. Is it credible that there is no foundation of truth in these religions? But, if there is any reason to presume that religious aspirations are not vain, there is a conflict between the religious beliefs of mankind and idealist metaphysics.

Face to face with such a striking contradiction, systematic aloofness becomes an impossible attitude; the desire for harmony and unity is too deeply rooted within us for us to remain impassive spectators of such a chaos. Here is the first conflict that it is the business of philosophy to try to put a stop to.

And here is another. The mechanical theory appears under the cloak of science as the solely plausible interpretation of nature. But it is very hard to get rid of the qualitative aspects of nature in order to reduce them all to terms of quantity. It is hard to identify consciousness with nervous phenomena; for even if it was agreed to regard consciousness and nervous phenomena as the inside and the outside of the same fact, there would still remain the need of explaining why and how certain material facts, among so many others, come to present this twofold aspect.

The solution of this twofold dispute can only be found by a thorough analysis of the fundamental notions of the human mind; religious notions; scientific notions, or rather notions of the mechanical theory regarded as the scientific conception of nature; and philosophic notions, or rather idealist notions—*i.e.*, notions of knowledge according to the idealist interpretation.

Religions give rise to two problems: What is the universe, and how did it originate?

As to the origin of the universe, there are three hypotheses: atheism, which regards the world as self-existing; pantheism, which makes the world pass of its own accord from power to action; and theism, which maintains that the creation of the universe was the work of an external agent.

But these three hypotheses are inconceivable. Besides, there is not one of the three that does not come sooner or later, either openly or by some subtle implication, to affirm a being existing of itself, some sort of "self-existence." This "self-existence" can have had no beginning. But duration without any limit is unthinkable.

Hence the problem of the origin of the universe inevitably leads the mind to make verbal statements which are inconceivable. The question of the nature of the first cause of the universe leads to the same *impasse*.

We are driven to infer the existence of a first cause of the universe. But this first cause must be something infinite and absolute. But the notions of cause, infinite and absolute, are incompatible. Hence our ideas as to the nature of the universe, as well as those that refer to its origin, are contradictory, and therefore the propositions implied in religious beliefs have no meaning which can be represented in thought.

The only abstract inference fundamentally discoverable as underlying all our inquiries into the question of a first cause, as well as into all beliefs, polytheistic, monotheistic, pantheistic, and atheistic, is this: that the universe manifests the existence of a power which is absolutely unfathomable.

Scientific theologians are moreover in agreement herein, that God is incomprehensible.

The fundamental notions of science from the mechanical standpoint are those of space, time, matter, movement, transmission of movement, force, and the mode of action of forces. From the idealist standpoint, these notions are those of sensation and of the conscious subject of sensations.

We have an invincible belief in *space* and *time*, but when we look narrowly into what we think we know about them, we find ourselves face to face with incomprehensible ideas.—Is *matter* made of solid elements or of force-centres, as Boscovitch maintained? Apparently we are driven to choose one of these alternatives, and either of them is alike inconceivable.—As to *movement* and its *transmission*, as to *force* considered in itself and in *its mode of action*, we find ourselves everywhere and always involved in inconceivable statements and in contradictions.

Thus, too, is it with the notions implied in man's *consciousness of the true*. Our *states of consciousness* appear to follow one another in a series of successive occurrences. And this series must be finite or infinite. But neither of these hypotheses can escape from contradictions.

Consciousness implies a conscious Ego. In vain does the phenomenalist try to reduce the Ego to a bundle of impressions, for he cannot sincerely refuse to regard his impressions as *his own*.* But consciousness of *oneself* is impossible. For consciousness necessarily implies a subject and an object; there must be two terms. But consciousness of

oneself presupposes a subject which is itself its object. Hence consciousness of oneself is impossible.

Therefore, whether we analyze our perceptions of external nature as it is displayed to us by the mechanical theory, or whether we examine our states of consciousness—*i.e.*, as to things and the Ego—on all sides we find contradictions and what is beyond our conceptions. Hence we can know nothing beyond the *phenomena* of experience.

The laws of thought lead to the same conclusion. Indeed, the exercise of thought is subject to laws of *relation*, of *likeness*, and *unlikeness*. To know anything is to perceive it in relation to consciousness, to distinguish it from other things, and to classify it along with simpler things of the same kind. But the knowledge of the absolute and the infinite excludes these conditions. Hence the absolute and the infinite cannot come within the range of thought, and they are unknowable.

What, then, are the conclusions of the *First Principles?*

Notions of the first cause, the absolute, and the infinite, form the basis of all religions, and they are inconceivable or contradictory.

The notions of time, space, matter, movement, force, underlie the knowledge of the world from the mechanical standpoint, and they are inconceivable or contradictory.

The notions of states of consciousness underlie all psychology, and they are also inconceivable and contradictory.

Lastly, there are three conditions of thought. In

order to be conceivable, a thing must be *relative, unlike* some things, *like* others—*i.e.*, it must be *relative* and *limited*. Such is the *law of the relativity of human thought*.

But if this is the case, what are we to say about the absolute and the infinite? Do these words denote a negation pure and simple, the negation of conceivability, as Hamilton maintained?

From a strictly *logical* point of view, says Spencer, this inference is irresistible. But the laws of logic have to do with those subjects of thought, of which we are *definitely* conscious. There are other incomplete thoughts which can never be completed, and of these we are *indefinitely* conscious. They are no less real than the preceding, in the sense that they are normal and undeniable affections of man's intelligence. The states of the absolute belong to the latter category.

All the arguments in favour of the relativity of our knowledge presuppose the existence of something which is not relative. To affirm that we cannot know the absolute is an implicit admission that *it* exists, but that we cannot know *what it is*.

It is impossible to think of a knowledge which would have nothing but appearances for its subject-matter, for an appearance with no reality whereof it is an appearance is unthinkable.

Limited space is not conceivable. When we limit space, we necessarily assume something beyond the limits. Thus the notion of the absolute is not purely inconceivable, it is an affirmation of something beyond that which is positively conceived. To speak generally, to conceive a thing as relative,

is to conceive it as opposed to something non-relative—*i.e.*, to an absolute.

Lastly, we cannot think of our sensible impressions without affirming the existence of a cause producing our impressions. Hence it is indisputable that there is an absolute whereof we have an indefinite consciousness.

But, it will be said, if thought is subject to the law of relativity and limitation, how can we explain the genesis of the thought of an object without relations and without limits ?

By means of simple notions, replies Spencer, in the case of which we mentally do away with special forms and limits. Consciousness of the absolute is an abstraction, not from a particular group of conceptions, but from *all* our conceptions. All the particular objects of thought vary, but something constant *subsists through all changes*, and this is *existence in general, immutability in general, the absolute.*

Not only is it quite legitimate to believe in the existence of the absolute, but none of our knowledge is more firmly based than that. In fact, the certainty of anything known is proportioned to our inability to eliminate it from the field of consciousness. But the knowledge of the absolute is necessarily connected with all knowledge. Therefore it is the most certain of all knowledge.

After the foregoing outline, what is the solution of the two contradictions which Spencer sought to reconcile ?

Religion and science are reconciled, for if science and philosophy show that we have no *distinct* notion

of the absolute and the infinite, they nevertheless allow us to believe in something mysterious and unfathomable, the subject-matter of religion.

There is also a reconciliation between science, understood as a mechanical theory of the universe, and idealist philosophy; for if the notions of time, space, matter, movement, and force are fundamentally inconceivable and contradictory, there nevertheless exists *an absolute* which is manifested in the phenomena of movement and force; and there is nothing to prevent one from interpreting all the phenomena which are the subject-matter of science —*i.e.*, the knowable, in terms of mass, energy, and movement.

In such conditions, philosophy is in harmony with science, for whence arose the conflicts of philosophy? From the fact that metaphysicians wanted to make statements as to the nature of the absolute, some saying that the universe exists of itself without any first cause (Atheism); others that the first cause is a personal self-existing being, a Creator (Theism); and others that it is a being in potentiality, which becomes the universe and the Ego (Pantheism).

But science is independent of these three interpretations.

Further, the conflicts arose from the fact that the metaphysicians wanted to explain the nature of the universe and of the Ego, some wishing to reduce matter to solid elements, others to force-centres; the former making the Ego a material subject, the latter a mind.

But here, again, science and philosophy have proved that we know neither the nature of matter

nor of the Ego; the atomic theory and the dynamic theory, the materialistic and the spiritualistic theories, are alike arbitrary.

Therefore the conflict is done away with, because there is no encounter.

One thing alone remains sure, that there is an ultimate *subject*, whereof corporeal and conscious phenomena are the manifestations.

The *substantial* identity of the Ego and the non-Ego, of mind and matter, gives us *Monism*. The reduction of all external phenomena, including neural facts observable by the physiologist, to mechanical phenomena interpretable in terms of mass and energy, gives us *Mechanism*. The affirmation that we know only our own states of consciousness, and that *things* are only the outward side of the psychological phenomena of which consciousness perceives the inside, gives us *Idealism*.

Spencer's *metaphysics*, and in particular his *rational* psychology, are characterized by his *fusion* of the different philosophical doctrines originated by Descartes and spread everywhere in our own age. It is a conglomeration wanting in any real organic unity. Spencer is a *collector of ideas* rather than the creator of a philosophy, and this is shown by his own express declaration that he regards philosophy as Comte did, as the general science which has to synthesize phenomena and their laws—*i.e.*, their relations of coexistence and succession.

As for his *evolution* theory, it is merely an *analogy* daringly grafted on a *hypothesis*. The *hypothesis* is this, that vegetable and animal species may have

descended by way of transformation from one or several primary types, by means of natural selection or, to speak more explicitly, under the favourable influence of the combined advantages of environment, survival of the fittest in the struggle for life, and of heredity. His *analogy* is to be found in extending the transformation-hypothesis indefinitely to embrace all observable facts, from the formation of the starry worlds, the solar system and our own earth, to the genesis of societies and the growth of civilizations.

Everyone will agree that this vast conception is neither science properly so called, nor real philosophy. The momentary success of the Spencerian doctrine of evolution was due to extrinsic causes rather than to its own real value. The infatuation of scientists for inquiry into the origin of life since Schwann's original discovery of the cellular constitution of organisms, and the bringing into use of wonderfully perfected instruments of micrography; the extraordinary similarities, observed by Darwin, between the most distinct types of flora and fauna belonging to the two hemispheres; the comparative methods of study applied to ethnography, anthropology, philology, sociology, and religions, and their coincidence with the discoveries of cellular biology, natural history, and embryogeny; and the need of linking together the few scattered facts brought to light by the immense analytical labours to which our age has given itself up, had predisposed the public mind to take a subjective binding together of facts as the last explanation of things by their causes, which is the supreme and constant end of philosophy.

Alfred Fouillée

Alfred Fouillée begins his work entitled *Évolutionnisme des idées-forces* by a criticism of Herbert Spencer's philosophy.

The English philosopher had set himself to form a philosophical synthesis in which positive science was alone to provide the elements, evolution was to be the bond of union, and idealism was to assume the direction. This much was called for by the state of philosophy when the great English architect began to build up his philosophic structure.

Above all, a synthesis, a unity, was what was wanted; for, in view of the accumulated results of scientific observation during the eighteenth century and the first half of the nineteenth, a comprehensive conspectus of the whole was more than ever imperiously demanded. But Spencer had fallen short of his aims. "His theory is wanting in unity. It leaves the mind confronted with three terms which have no connecting link. First there is an unknowable, and then two series of knowable facts—physical facts, and psychical facts—the latter of which comes to be superadded to the former, one knows not how. . . ."[1]

To attempt once more, with an even more robust faith, the constructive unity which Spencer had essayed to effect and failed; to start, as he had done, with the idealist and positivist data gained by contemporary psychology; to look, like him, for

[1] A. Fouillée, *L'évolutionnisme des idées-forces*. Introduction, pp. vi, vii.

a universal explanation of things in the law of evolution, but to do away with the transcendent, the dualism of the material and the mental; and thus to reach a rigorous monism, but one that was "immanent and experimental"—such is the ideal constantly pursued by this prolific writer, of whose philosophic scheme we are about to give an outline.[1]

The secret of Fouillée's synthesis is the "*idea-force*."

By *idea* must be understood not only the phenomenon that is strictly "mental" or a phenomenon of cognition, but, in the Cartesian sense, all internal facts which are conscious or capable of becoming so.[2]

[1] Besides a quantity of fragmentary essays, review articles, etc., A. Fouillée has written the following: *L'avenir de la métaphysique fondée sur l'expérience ; L'évolutionnisme des idées-forces ; La liberté et le déterminisme ; Le mouvement idéaliste et la réaction contre la science positive ; Tempérament et caractère ; Psychologie du peuple français ; Esquisse psychologique des peuples européens :* and in the domain of morals, sociology, and education: *La morale, l'art et la religion, d'après Guyau ; Nietzsche et l'immoralisme ; Le moralisme de Kant et l'amoralisme contemporain ; La critique des systèmes de morale contemporains ; Les éléments sociologiques de la morale ; La morale des idées-forces ; La France au point de vue moral ; Le mouvement positiviste et la conception sociologique du monde ; La science sociale contemporaine ; La propriété sociale et la démocratie ; L'idée moderne du Droit ; L'enseignement au point de vue nationale ; Les études classiques et la démocratie ; La réforme de l'enseignement par la philosophie.* We might also add four volumes on *La philosophie de Platon ; Histoire générale de la philosophie ; La philosophie de Socrate,* and a book on *Descartes.* Almost all these works are published by Alcan, Colin, or Hachette, of Paris.

[2] "We use the word *idea* or *thought* in the Cartesian sense, as expressing *states of consciousness* not only in their mental character, but also as possessing the *feeling* and *appetite* that are inseparable from them. An *idea,* in the narrowest sense, is an inward *representation* of that which is or which may be, a state of consciousness representing

From the days of Descartes, thought and the mechanical physical phenomenon have been set in opposition to one another under the conditions of an irreconcilable dualism. The mechanical phenomenon occurs in nature; the conscious subject looks on, but has no way of acting upon it. He is but a passive witness, and his thoughts are only the "reflections," the "shadows" of reality, and not "forces" that can play a part in the general evolution.

Spencer never saw the parlous side of this philosophy, but fell into the trap like everyone else.

Not only did he regard the mental phenomenon (strictly so named) as the merely subjective contemplation of an assumed reality independent of that contemplation, but, along with Huxley, Bain, Maudsley, he allows himself to be convinced that even our feelings and volitions are powerless so far as the mechanism of nature and life is concerned.

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an object; it is, as Spinoza would say, a mode of *thought*. But the word *idea* may be also used in a sense broad enough to include all states of consciousness actually or virtually turned back upon themselves. These two senses of the word *idea* are necessarily connected. No sooner is a state of consciousness consciously apprehended to be distinct, whether it be an emotion of pleasure or of pain, an impulse, an appetite, or a volition, than it becomes a *form* of consciousness capable of being *reflected* upon itself (εἶδος); besides, any state of consciousness thus *perceived* exists more or less for a *subject*, and is more or less representative of an *object*: we have no pleasures or pains, still less have we appetites, without having some representation of them. It is, then, quite correct to call *ideas* all states of consciousness so far as they are inseparable from some *representation* which gives them a *form*, an *object*, and makes them able *to be reflected upon themselves* in the conscious *subject*." —*L'évolutionnisme des idées-forces*, Introduction, pp. xi, xii.

"The whole of this school of contemporary psychologists tells us that the automatism of reflex actions, already described by Descartes by the words *undulatio reflexa*, explains everything which our complacency ascribes to the action of our ideas, our feelings, and our wills."[1]

[1] The page from which these lines are taken must be quoted in full, for it gives an excellent sketch of the author's governing idea, and exactly defines the point of view which he takes up in psychology. He writes: "Huxley, commenting on the famous doctrine of Descartes as to the automatism of animals, showed his hearers a frog without the two lobes of the brain, nevertheless performing wonderful balancing feats to keep its place in his hand without falling in spite of his moving it in various directions. If the frog were a philosopher, Huxley wittily remarked, it might reason thus: 'I feel very uncomfortable and on the point of slipping off; therefore I put out my claws in front of me to make sure. Knowing that I shall fall if I don't put them still further out, I make them sure again, and my will brings about all these fine adjustments, the effect of which is to place me in safety.' But, Huxley concluded, if the frog reasoned thus, it would be wrong, for, in fact, it performs everything just as well without reason, feeling, or thought of any kind: animals are, therefore, automata, but conscious automata.

"Man, whom Descartes had taken care to place apart, naturally comes under the general definition. There is a whole school of contemporary psychologists to tell us that the automatism of reflex actions, already described by Descartes with the words *undulatio reflexa*, explains everything which our complacency ascribes to our ideas, our feelings, and our volitions. The shape of the problem is new, but the problem itself is old. If we were to go back two thousand years to the time of the Greeks and the days of Socrates, and to be present at the last discourses of the sage in prison, we should hear the same problem put forward, and two solutions indicated, one quite mechanical, the other psychological. Socrates, indeed, said that the supporters of the universal mechanical theory, if they were asked why he was sitting in prison ready to drink the hemlock, would not fail to answer:—It is because Socrates muscles, acting in such a manner on his bones and limbs, bring about such and such a position of body. And

Were this really the case, observes Fouillée, consciousness would be a useless accessory in the world, and therefore it is high time for it to have already disappeared, as useless organs disappear through atrophy. But this has not occurred. The psychological doctrine of "idea-reflections" is an

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Socrates added:—The true reason is, that I have an idea of the good, and that I prefer death to living in infamy as a perjured man.

"The philosophers of to-day, if they were not governed to some extent by feelings of respect, would not fail to compare Socrates with Huxley's philosophic frog, and to say: The cause you appeal to is not a real one. You are the victim of a delusion when you think you are doing something for an idea, a feeling, an act of will: you take a reflex action of the mechanism for the spring that drives it. Granted, the delusion is a natural and even a universal one. All of us fancy, indeed, that we choose what we eat from an anticipation of *pleasure;* we imagine that the *feeling* of satisfaction or of disgust is what governs our choice, and think that our voluntary acts are the result of some *desire*. But desire and aversion, pleasure and pain are merely the psychological *signs* of bodily movements which alone are effective. If, then, you ask: Has the feeling of hunger or thirst anything to do with Socrates' movement to seize the cup and drink the hemlock, or would the same result have come about without any feeling of the kind? Spencer answers in the same way as Huxley, Bain, and Maudsley. The facts of consciousness are the 'subjective and accessory aspects' of the living automaton. Get rid of pleasure, pain, desire, and thought, and the machinery of vitality will go on just in the same way, owing to the effects of purely natural forces; only we shall be able quite rightly to say of them what Malebranche said wrongly of his dog: 'It does not feel.' We, indeed, do feel (and so did Malebranche's dog), and we even think; what can we infer, except that we are conscious automata?

"Thus, in this philosophy, consciousness is the paralytic, and the body is the blind man; only the blind man walks just as if he could see, and the paralytic sees in vain, for he does not lead the blind man, who would walk just as well without him."—*L'évolutionnisme des idées-forces*, pp. viii-xi.

arbitrary one. The reasons it relies upon do not justify it.[1]

The doctrine arises from the fact that, by an illegitimate abstraction, the *idea* is considered solely from a *statical* point of view, as if it had a certain qualitative *content*, constituting it *thus*, and not otherwise; whereas it should also be regarded from a *dynamic* point of view, as a *condition* or *cause* of change in the whole system of which it forms a part.

As long as we confine ourselves to the former point of view, "as long as ideas are only credited with the simple representative content which is actually presented to consciousness, so long as we picture them to ourselves as inert *imprints* or photographic likenesses, any notion of a *psychical dynamism—i.e.*, of a mutual interaction of psychic facts which may make one appear and another disappear—in a word, any notion of idea-forces becomes inconceivable. But this exclusively statical way of representing ideas and facts of consciousness is a materialist metaphor which the psychologist has no right to set up as a principle. From the point of view of consciousness, we may and must conceive every state of consciousness as containing in itself *conditions of change* so far as other states of consciousness are concerned."

Furthermore, conscious activity is not only a psychic force, it is the only force properly so called, for, from a mechanical point of view, there are no forces, there are only movements and mathematical formulas expressing the succession of movements. Effectiveness, efficient causation, action,

[1] *L'évolutionnisme des idées-forces*, pp. xvii.-xxix.

force—all this is beyond the mechanical, as it is outside the province of logic, and can only be thought of as psychic.

To the theory of idea-reflections, then, that of *idea-forces* must be opposed. According to the latter, all states of consciousness, representations, feelings, volitions, are factors contributing to mental, and even to physical, evolution.[1]

"When, for instance, pain makes me draw away from anything, then, indeed, to consciousness pain is the explanation of such *aversion*, for in itself pain has certain indispensable conditions belonging to the internal change which is called aversion. Any other explanation has nothing to do with psychology. The notions of *influence, action, efficacy, force,* are entirely borrowed from the psychological standpoint. It is the impulse aroused by desire, or the repulsion caused by aversion, that gives me an idea of inward constraint and of a resisting force. Psychology cannot abandon this point of view without committing a kind of suicide; it must refer materialist hypotheses, as well as spiritualistic hypotheses, to metaphysics.

"The conceptions of feeling-forces, appetite-forces, idea-forces, are therefore essential to psychology."[2]

Granted: states of consciousness are *forces*, but all natural states are not conscious. There are beings possessed of "ideas," and others without them. How, then, are these various kinds of elements to be combined into the single synthesis demanded by a philosophy?

[1] *Loc. cit.*, p. xvi. [2] *Loc. cit.*, pp. xxxi, xxxii.

Did not Spencer himself admit that " between the phenomena of consciousness and physical occurrences there is no visible or conceivable community of nature " ?

And did not Fouillée, in his answer to the English philosopher, say: " The *mental* could not be *implied* in factors which *ex hypothesi* were entirely mechanical, nor could it be the effect of causes upon which it cannot be shown to be dependent. . . . Amongst your primary data you thought you had nothing but movement and matter; you are better off than you thought, for here is mind " ?

Must we then give up the fundamental unity which metaphysics invincibly pursues, or must we put the mental among the facts of evolution, and say that there is, within elementary matter itself, " something psychic, a germ of feeling and appetite " ?[1]

To give up the idea of reducing nature to unity is an impossibility. " Such an alternative would condemn us, in fact, to an *unintelligible dualism*."

" After assimilating to ourselves other men and animals, including polyps, which are almost indistinguishable from plants, we ought suddenly to stop short at the latter, and say: Here begins world number two, and it has nothing in common as to its primary elements with world number one. Let us then draw a great line to mark off the world that has no feeling, and is without any sort of *appetite*, from the world that *feels* and *tries*. Then, coming to the mineral kingdom, we shall do the same thing over again, and set up a new and insurmountable

[1] *Loc. cit.*, p. li.

wall. Nature will thus be divided into separate regions by yawning dykes. We shall now only have to explain how, from the mineral furnace which the glowing earth once was, vegetable life arose, and next animal life, and, lastly, man. It is true that we may still summon Jehovah to help us by bringing forth the different kingdoms of nature, and even the different species in each kingdom, each one created by its own distinct *fiat*, or by a special miracle. But then the monistic bond which is refused to nature is carried higher up to an eternal Man. Because we were unwilling to project into nature a few of our own rudimentary feelings and appetites, we project our developed mind and considered will into the being of a Demiourgos or Creator. This is, indeed, again an induction, but a kind of backward one, and one that runs counter to the inductions of psychology, physiology, and every other science."[1]

Still, from the second alternative we cannot escape. Since unity must exist in nature, and evolution has to reveal its various aspects; and further, since it is regarded as established that the mental cannot arise from the physical, nor thought from matter and motion, there is only one expedient left, and that is to assign to the mental and to the physical, to thought and to matter, a single original substratum.

But how is this unity to be brought about, since all the energies of consciousness seem to protest against it?

The repugnance we feel against coming down

[1] *Loc. cit.*, pp. xlviii, xlix.

from the mental to the physical by a continuous slope, and to making them fundamentally unite, comes from a logical defect already condemned above, a defect of all psychologies—*i.e.*, a narrow and superficial interpretation of conscious activities. We are accustomed to regard consciousness as an *epiphenomenon* without any real connection with nature, as a simple " illumination " of the physical, which, if it were unilluminated, would go on just as it does to-day, the extrinsic circumstance of its illumination alone excepted. But, this interpretation of the content and the rôle of consciousness must be cast aside. Consciousness is not something outside of the physical, an accessory superimposed to illuminate it; it is the physical itself, its inner spring, the dynamic principle of all its energies.

To understand this, we must not begin with *intellectual* acts, " for the intelligence is *par excellence* the clearness, the distinction, the differentiation, the complex integration of the elements of consciousness." But, evolution proceeds from the indistinct to the distinct, from the simple to the complex, and not inversely, from the complex to the simple, from the differentiated to the undifferentiated. At the starting-point of consciousness we have not, then, to put absolute unconsciousness, " for zeros of consciousness would never beget consciousness," but " subconscious " elements—*i.e.* " *indistinct* elements of consciousness. It is natural to look for them in the *sensations*, not in those that are clearly differentiated and integrated in the five outward senses, but in the inward and vital sensations, arising from the inward organs. Even among these

sensations, we must get rid of those which have too distinctive qualities, the signs of higher differentiation and interior integration. The fundamental qualities in the sensations are those that are not representative, but only *affective*, the various modes of pleasure and pain. And even these modes denote something too definite, and therefore too developed. In pleasure and pain we must consider only the beginnings of feeling well or unwell. Thus we succeed in imagining a vague sense of well-being or of being out of sorts; and this is an element which is both sensational and emotional. This element in turn involves a more or less dull reaction, the characteristic of which is to be found in appetite, in aspiration towards, or aversion from, anything, with its correlative movements to or fro. The foundation of the various appetites lies in the general appetite for life—the last thing to disappear in an animal, either in its morbid or normal state. Hence we see that elementary mental changes must be called *appetitions*, inseparable from the elementary modifications which give rise to the *sensations*, and from those elementary *emotions* that constitute vital well-being or unwellness. . . . This 'appetitive process,' with its 'three moments,' appetition, sensation, emotion, 'a process both mental and mechanical,' which we shall adopt as the starting-point of all psychological interpretation, seems to us alone to offer the necessary and sufficient characteristics of a true interpretation. . . . It is only when one has thus restored to movement, even of the most primitive kind, its mental side, or rather its mental *substratum* (sensation, emotion, appeti-

tion), that one can admit the gradual evolution of movements, on the one hand under the form of instinctive acts, then of reflex actions properly so called, and on the other hand under that of voluntary movements, according as the conscious element increases or decreases. The interpretation of psychological facts is, then, in our eyes not only mechanical, but also and above all appetitive: *omnia mechanice fiunt*, 'all things are done mechanically,' but all things are also done by appetition, at least among sentient beings. Here there are not two 'aspects,' but a single reality, which is directly revealed to itself by *appetite*, and which indirectly represents to itself its relations with its environment under the form of *mechanism*. *Appetite*, therefore, remains the mainspring of psychology, and mechanical laws are only the laws of the mutual relations of appetite and its environment."[1]

Such, according to Fouillée, is the explanation of the world unity, and of the evolution of all beings from a single primary "substratum," *appetite*.

Here it is not hard to observe the influence of Schopenhauer's pantheism on the mind of the French philosopher. Schopenhauer's teaching is grafted upon Kant's critique. The Koenigsberg philosopher had submitted the whole kingdom of

[1] *Loc. cit.*, p. xxii. Elsewhere Fouillée writes: "The mechanical theory and the mental theory may be definitely reduced to sensibility and activity. What is *a priori* in consciousness, is not *thought*, but *feeling* and *action*. Kant's universal principles are but the outward extension of our inward organization. Fashioned by the macrocosm, the microcosm by its reactions expresses the great world around it, and even reconstructs it in turn. . . ."—*La liberté et le déterminisme*, p. 188.

knowledge, in the criteriological region, to the primacy of the practical reason. Schopenhauer transports the theory from the domain of metaphysics, and maintains that the basis of all things is *will*. The will, the will to live, *Der Wille zum Leben*, is the internal impulse which everything obeys, and man with his conscious representations, and animals with their feelings, and the growing plant, and the falling stone, are so many phenomenal graduated objective manifestations of the universal will "like insensibly diminishing degrees of light." This internal principle of beings is not representable to consciousness, because representation is subordinate to *a priori* forms of time, space, and causation; but, *qua noumenon*, the will escapes from the laws governing our forms of representation; it is universal, always identical with itself, free, and infinite.

The *x* of the Kantian metaphysics is therefore got rid of; the thing-in-itself is the cosmic will, and consciousness is the stage on which it makes its appearance. Certain slight nuances apart, Fouillée's "appetite" is Schopenhauer's *Wille zum Leben*.

"That which in ourselves," he says, "seems to come nearest to the impenetrable basis of all things, is the immediate enjoyment of existence and of action, whereof happiness should be the ideal fulfilment. There is a moment in which we are immediately *aware* of our *existence*, in which life is exercised in self-enjoyment. . . ." This "moment," in which only an "inward" remains, wherein the "abstract notion of an *end* properly so-called" is replaced by the "sense of concrete and immediate possession

aware of its own action," is apparently in substance Schopenhauer's *Wille zum Leben*. Or, may it not be a more or less vague glimpse of the old notion of the inward finality of nature, the Aristotelian idea of ἐνέργεια or ἐντελέχεια ?[1]

The "appetitive process" marks a reaction against stark mechanical theories, which refuse to see in nature anything beyond necessary efficient causes, and it provides a basis of reconciliation between materialism and rationalism, the conflicting schools that arose from the Cartesian psychology.

The dyke yawning between movement and thought is filled up, for both have a common origin, and therefore must have a nature that is fundamentally one.

But beyond mechanical and conscious phenomena, does not the human mind attain to the transcendent, the Ego, the absolute ? Positivist idealism persuades us, however, that we perceive nothing beyond phenomena. Will the theory of "idea-forces" stop short at this new problem ?

Spencer inferred the reality of a fundamental substratum, the common source of bodily energies and of conscious activity. He judged that absolute idealism was untenable, and that it must be "transfigured." His positivism did not shrink from the affirmation of a transcendent world, the nature of which he was satisfied to regard as unknowable.

At the beginning of his first book, *L'avenir de la métaphysique*, Fouillée appeared to be almost in favour of this Spencerian semi-positivism. In fact,

[1] *La liberté et le déterminisme*, p. 23.

it contains some well-written pages on the " metaphysical needs " of man's nature.[1] They give one an anticipation of a realist belief in transcendent realities. But as the revelation of his mind proceeds, he allows himself to fall more and more under the influence of Kant's critique, and finally declares plainly that " the limits of possible experience, of possible consciousness, are also the limits of conceivable existence. As for an unknowable transcendent, neither science nor ethics needs to trouble at all about it."[2]

But then, whence comes our undeniable belief in the absolute ? And " what is, and whence comes the irreducible and fundamental *thing-in-itself*, which cannot be a long way off me, since it is, in fine, myself " ?

It is the idea-force, always the idea-force, that must furnish the solution of these engrossing problems.

" It is certain," says Fouillée, " that the Ego is an idea, and an idea that tends to realize itself by the very fact of conceiving itself."[3] The idea of

[1] " Man is a metaphysical animal. Scientific questions are not the only ones; others press upon man's mind: whether the visible world suffices or does not suffice unto itself, whether there is a first cause of all things, whether this first cause, if it exist, must be conceived as material, as conscious, or as absolutely indeterminable, whether the world had a beginning or not . . . , what are our nature, origin, and destiny ?"—*L'avenir de la métaphysique*, pp. 12, 13, 16.

[2] " When the psychic element has once been re-established in the course of reality, the need of a transcendent and unknowable world will no longer be felt, and the whole of reality will be regarded as homogeneous and one."—*Le mouvement idéaliste*, Introduction, p. xlvii.

[3] *Psychologie des idées-forces*, II., p. 69.

the Ego creates the Ego, just as the idea of a one and identical Ego creates the unity and identity of that Ego.

" The idea of the simplicity of the Ego, in conceiving itself, tends to produce an approximation to such simplicity. . . . A certain connexion and unity is necessary to life, whether organic or mental. . . . The living being, after willing to be and to live, wills to be and to live intensely, and therefore in a way which is an ordered, harmonious, one. Hence it desires, while becoming gradually conscious of its feelings, to *feel* itself one, and then to *think* itself one."[1] Lastly " it is through the representation of my identical Ego that I realize a relative identity."[2]

And what is my Ego, fundamentally? Is it something individual, or is it merely a part of universal existence? We know not.

" My consciousness may be consciousness of universal existence," my thought may be a " concentration, at a particular moment, of the thought pervading the whole universe." " We look for the Ego, either in the phenomena whereof it appears to be the concrete harmony, or else in the universal being, which is no longer *my* thought, but thought *itself*."[3]

Echoing Fichte, Fouillée goes so far as to claim for the idea the power to create God. " We ought to desire," he ventures to write, " we ought to will God to exist. Above all, we ought to act as if He existed. If the supreme ideal of goodness and love

[1] *Psychologie des idées-forces*, pp. 75-77.
[2] *Ibid.*, pp. 79, 80.
[3] *La liberté et le déterminisme*, pp. 76-90.

is as yet unrealized, it must be created. At any rate, let it exist within me, within us, within all of us, even if it does not exist in all the world! Perhaps it will then come into existence in the universe itself. No, man cannot say with certainty, either in the name of ethics or of metaphysics, that God exists; still less can he say that, God does not exist; but he ought to say, both in word and thought, and in act, Let there be God! *Fiat Deus!*"

In conclusion, what are the essential features of Alfred Fouillée's philosophy, as shown in the foregoing analysis? Between the mechanical and spiritualistic theories Descartes had set up an irreconcilable opposition, and Fouillée revolts against this opposition. This dualism is unintelligible, he declares. There must be a compound unity in beings.

Conscious mind cannot be superadded to matter in motion, nor the mental make a sudden irruption into the physical; but the physical is itself impregnated with the mental. The mental is the primary mainspring of universal evolution.

How is this evolution to be explained? It will only be explained, if we cast to the winds the old prejudice which made of mind a kind of reflection or illumination of reality. The mind is only the final manifestation of conscious life; emotion precedes it, and emotion is itself preceded by appetition.

"There is no other way of entering into the possession of the real than by feeling. . . . We can only understand reality by analogy with what we call *feeling, desire.* Hence comes the tendency to put into things, as an inward side which is truly

psychic and no longer *physical*, something analogous to our sensations, pleasures, pains, and desires."[1]

Appetite, an inward and dimly conscious tendency, this is the primary substratum of beings, this is the original source of reality. Distinct consciousness in animals and men is but the crown of the appetitive process.

This finalism, after the manner of Schopenhauer, marks a reaction against the exclusive dominance of efficient causes in nature, as the affirmation of the part assigned to the mental marked a rebellion of the new philosophy against materialism.

For the rest, Fouillée is and remains an *idealist*. He does not hesitate to write: " The only principle that is evident is: Thought exists, there is thought, there is being, there is consciousness." He is also *positivist*, not only in the weakened sense of Spencer who believed in an Unknowable, although he declared that he could not discover its nature, but he is radically a positivist, denying any transcendent beyond, any substance, Ego, or absolute.

The Ego and the transcendental absolute are creations of thought. And this final conclusion discovers for us in Fouillée's idealism that tincture of *pantheism* which we have already seen brought out in his monistic statements about the universe.

Wilhelm Wundt

Wundt's ambitions were above all of a scientific character. To study facts, physiological facts, physical facts, psychological facts; to observe them

[1] *La liberté et le déterminisme*, p. 339.

by themselves, to press them closely, to disentangle their elements, and to measure these alike in their intensity and in their duration, to study the " psychic compounds " formed by them and revealed to us by experience under the form of *representations* and *emotions*, to fix the empirical laws of their association and recurrence; such is the dominant interest of him who was, if not the creator, yet surely the most vigorous promoter of psycho-physiology.

But Wundt is not only a man of science, he is also a philosopher.

One can see from his *Essays*, his *System der Philosophie*, his three volumes of *Logik*, and in his *Ethik*, that he does not share the disdain for philosophical speculation entertained by so many scientific men. Along with Volkelt[1] and Paulsen[2] he vigorously supported an effort made by Lotze, Fechner, and Lange, in favour of a more scientific conception of philosophy and of a rehabilitation of metaphysics.

To him philosophy is the outcome of science, and it gradually emerges from his scientific labours. He defines it as " The systemizing of the general knowledge furnished by particular sciences," or again, as " The co-ordination of particular kinds of knowledge into a general conception of the world and of life, which shall be in harmony with the requirements of reason and the needs of consciousness."[3]

[1] Volkelt, *Ueber die Möglichkeit der Metaphysik*, Leipzig, 1884.

[2] Paulsen, *Einleitung in die Philosophie*, Berlin, 1896, 4te Aufl.

[3] Wundt, *System der Philosophie*, Leipzig, 1889, S. 19, 21. Not to mention the many articles published since 1881 in his Review, *Philosophische Studien*, we may note among his writings: *Handbuch der medizinischen Physik*, Stuttgart,

He pays attention to the history of systems, trying to discover in them the progress of philosophic thought and the slow development of the principal ideas on the synthesis of which he is so patiently working. All the doctrines which are so prevalent in our own time he has thoroughly mastered and has steeped himself in them, but he has made them his own by personal endeavour, and shows a tendency to throw them over on more than one point. After Kant, he chiefly owes his philosophical training to Herbart. This he acknowledges in the preface to his *Grundzüge der physiologischen Psychologie.*

To Descartes, Locke, Berkeley, and Kant, he owes his idealist turn of mind. "The world is only made up of our representations," he writes; and when at last he asks himself what the psychology of the future might be and ought to be, he lays upon it this condition—that it is never to contradict the ideological and critical theory to which he is so inviolably true.

1867; *Untersuchungen zur Mechanik der Nerven und Nervencentern,* Stuttgart, 1876; *Lehrbuch der Physiologie des Menschen,* 4 Aufl., Stuttgart, 1878; *Logik,* 1 Bd.; *Allgemeine Logik und Erkenntnisstheorie,* 1906, 2 Bde.; *Logik der exakten Wissenschaften,* 1907, 3 Bde.; *Logik der Geisteswissenschaften; Ethik,* Stuttgart, 1903, 2 Bde.; *Essays,* Leipzig, 1906; *Grundzüge der physiologischen Psychologie,* 5 Aufl., 3 Bde., Leipzig, 1902-1903; *Vorlesungen über Menschen u. Thierseele,* 4 Aufl., Hamburg, 1906; *Grundriss der Psychologie,* 8 Aufl., Leipzig, 1907; *Einleitung in die Philosophie,* Leipzig, 1906; *System der Philosophie,* 2 Bde., Leipzig, 1906; *Völkerpsychologie,* Leipzig; *Sprache,* 1904, 2 Bde.; *Mythus und Religion,* 1905-1906, 3 Bde.; *Sitte* (?). E. König and R. Eisler published monographs on Wundt at Leipzig, 1901, 1902.

And yet Wundt's idealism does not exclude a certain kind of *realism*. "It is impossible," he says, "to deny to the objects of our thoughts a certain being of their own." And elsewhere: "The subject-matter of psychology is the data of experience, as provided immediately to the intuition of consciousness. Hence psychology is independent of all sorts of metaphysical hypotheses, excepting one—*i.e.*, the hypothesis that denies the reality of our states of consciousness and makes out that they are illusive deceptions."[1]

Hence the immediate data of experience are *real*. But the concrete data of experience imply *two* inseparable but distinct *elements:* the *content*, and the *apprehension* of such content, the *object* of consciousness, and the conscious *subject*. The subjective point of view is that of *psychology;* the objective point of view is that of the *natural sciences*.

Psychology investigates the concrete data of consciousness in their relations with the subject. The inward experience of the psychologist is, then, in the strictest meaning of the word, *immediate*.

Natural science gets rid of the subject as far as possible, and tries to determine the nature and the reciprocal relations of objects. Thus it touches experience less immediately than psychology. The psychologist regards the data of experience directly, by intuition; the observer of nature considers them rather by an ideal (mental) process, and therefore mediately. The effect of this procedure proper to the science of nature is, that the objects ideally

[1] *Ueber die Definition der Psychologie* (*Philosophische Studien*, 1896, S. 22).

detached from the concrete reality to which they belong in consciousness are as it were left hanging in the void, and the observer's mind is driven to ascribe to them a substratum, such as matter or the like. These are but subsidiary notions (*Hülfsbegriffe*) with a hypothetical significance, and psychology, the science of immediate experience, can do entirely without them.

Thus psychology is, by definition, the strictly immediate science of the concrete data of consciousness.[1]

But these data do not present themselves as objects possessing permanent properties, but as a series of occurrences, a chain of *acts*. And to these *acts* psychology is devoted. "The *theory of actuality*," says Wundt, "means nothing but this. Thereby I do not intend to maintain an interpretative hypothesis of psychic processes, I confine myself to the attestation of a property which, in fact, belongs to them.

"I ask for the immediate data of consciousness to be taken for what they are, as acts, the connections between which we endeavour to understand and to interpret, and this I regard as the primary law of psychological method.

"I only speak of a *theory* of actuality to mark my opposition to the older conception of psychology, which I call 'the theory of substantiality.'" Formerly, indeed, psychology was defined as the science of the soul, and psychologists, materialists as well as spiritualists, looked for the explanation of psychic acts to a substratum which was believed

[1] *Philosophische Studien*, S. 23, 24, 46.

to be entirely different—*i.e.*, to a soul-substance. But since substances do not fall directly within the reach of consciousness, the psychologist ought not to deny or affirm them, nor can he do so.[1] Psychology is *the science of immediate experience*, and " metaphysical hypotheses " are outside of it.[2]

To what conclusions does this study of a series of *acts*, passing beneath the eye of consciousness, lead? They may be summed up in a theory which, in opposition to the *intellectualism* of the older psychologists, Wundt calls *psychological voluntarism*.

Wherever we trace the influence of the Cartesian psychology, there we find *outward* and *inward* experience opposed to one another as antagonistic procedures. To *outward* experience acquired by the *outward* senses was attributed the knowledge of natural objects possessing permanent qualities, independent of the changes momentarily undergone by the subject who regarded them. To *inward* experience, the source of which lay in the *inward* sense, were referred the states of the subject. Natural sciences were conceived to have as their object the data of outward experience; psychology, those of inward experience.

And this method was pushed further still. As the objects of the inner senses were taken to be copies or likenesses of outward objects, the former were credited with the permanent objective properties which had already been ascribed to the latter. Hence it was generally concluded that " conscious

[1] *Philosophische Studien*, S. 36.
[2] *Grundriss der Psychologie*, 2te Aufl., 1897, S. 1, 7.

representations, as well as external perceptions, have their own object (subject-matter), that this object may sometimes disappear from the field of consciousness, sometimes reappear, and become, according to the degree of external stimulus or of inward attention, stronger or weaker, clearer or less clear, but that nevertheless, considered as a whole, it possesses certain qualifying attributes that are absolutely invariable." Here, according to Wundt, is a mistake, and it consists in the realizing of our representations, and this is a kind of false *intellectualism*.[1]

From this first miscalculation a second has arisen. The *objective* character of psychological phenomena having succeeded in securing the chief attention of psychologists, representative or "mental" facts were regarded as primary, feeling and volition as secondary phenomena, which they endeavoured to derive from the first. The associationists, and before them, Herbart, although in different ways, tried indeed to refer to elementary representations the origin of psychic acts, however varied and complex.

But, says Wundt, intellectualism falsifies the data of immediate experience. Really, there are not two different kinds of experience, one external, the other inward. All natural objects are psychological objects. The mineral world, the vegetable world, sounds, rays of light, belong to the sciences called mineralogy, botany, physics—and we all admit it; but so far as these different objects awaken representations in us, they belong to psychology.

[1] *Grundriss der Psychologie*, S. 16.

On the other hand, our inner states, such as our affections and volitions, are outside the province of the natural sciences, but they are immediately and indissolubly connected with the representations of external things.

Hence it was wrong to oppose the inward experience of the psychologist to the outward experience of the observer of nature, and intellectualism has no foundation.

To this intellectualism of the older psychology Wundt opposes, on the ground of a more rigorous interpretation of facts, *psychological voluntarism*.[1]

Representation must not take up all the psychologist's attention, and in representative phenomena the *objective* aspect must not dominate alone.

Real and living consciousness gives us a complex fact arising from a subject. This fact is *an indivisible whole* compounded of volition as much as of cognition. The representation does not exist by itself any more than the will exists by itself. Representation and will are abstractions. And far from being a representation which must be regarded simply as an object, the psychological act which includes a representation is, in its origin, essentially *subjective*.

Nor must we, like the intellectualist, think of a psychology which deals with *objects* fixed in consciousness in their entirety. The immediate term of consciousness is not objects, but *occurrences*, not absolute realities, but acts occurring in the course which carries them along with it.

[1] *Philosophische Studien*, S. 51 *ff.*

The immediate object of consciousness, says Wundt, and consequently of experimental psychology, is a *succession of processes*. "Psychic facts are *occurrences*, and not objects. Like all occurrences, they *flow on in time*, and are never the same for a moment together."[1]

But from this last point of view, volitional processes have a characteristic signification. Hence it is well to represent to oneself all the occurrences of psychic life, including intellectual acts, in a volitional manner, in order the better to note that they are all governed by the law "of occurring in time." But we must not transform this convenient analogy into an objective theory, as if we claimed to refer all psychic processes to acts of will. Nothing is further removed from the mind of the Leipzig philosopher.

Psychological voluntarism, in fine, only attempts to restore, in opposition to intellectualism which has impaired them, the genuineness of the dicta of consciousness. It may be summed up in three propositions: that inward experience, the source of the evidence of psychology, has not a separate domain of its own, but that it is purely and simply *immediate experience;* that immediate experience does not touch things at rest, but a constant flow of moving occurrences, and it is not an experience of objects but of *processes*, which are nothing else than the *common occurrences of every human life*, regarded in their mutual relations; that each of these processes has an *objective* content, but is at the same time a *subjective* act, and thus it participates in the general

[1] *Grundriss der Psychologie*, S. 17.

conditions of knowledge and in those to which human actions are subject.

It is clear that the *voluntarism* just described does not go beyond the limits of experimental psychology. It no more aims at dealing with metaphysics than does the theory of *actuality*. The psychologist of Leipzig wanted to establish what are the data of immediate experience before entering upon the field of hypotheses and going on to *philosophy*.

We shall soon meet with a new form of voluntarism in his writings, but it belongs to metaphysics, and we must be on our guard against confusing it with his psychological voluntarism.

In knowledge Wundt distinguishes three degrees, belonging respectively to practical life, to particular sciences, and to philosophy. He calls them: *intuition* (*Wahrnehmungs-*), *understanding* (*Verstandes-*), and *reason* (*Vernunft-erkenntniss*).[1] And although these three degrees do not seem to him to be specifically different, nor rigorously marked off, he sketches a *hierarchy of knowledge* according to their distinctions.

Experience lies at the root. Particular sciences analyze, interpret, and correct, each in its own sphere, the data of experience. And philosophy carries forward the scattered labours of the sciences in a universal way, it co-ordinates the knowledge which has been generally attained, and, embracing the results of experience as a whole, it disentangles from them, for the use of reason and feeling, a conception of the world and of life. Thus establishing systematically the unity of human knowledge, it

[1] *System der Philosophie*, S. 108.

should not confine itself to resolving the apparent contradictions arising out of scientific explanations of facts, but, without ever ceasing to depend upon the sciences as its legitimate foundations, it may very well unhesitatingly go beyond the borders of experience in its deductions, for the purpose of completing our understanding of reality. It is this that gives it its definition according to Wundt.[1]

On the other hand, if the subject-matter of philosophy is, as a whole, the same as that of particular sciences, it is not so as to its point of view, which is twofold.

In fact—and its division depends upon this—philosophy has two duties: first to investigate, so far as its *acquisition* is concerned, the sum-total of human knowledge; next, when this work has been done, and the mind is assumed to be in possession of this knowledge, to study that knowledge itself *in the principles* upon which it is based. The pursuit of the first includes logic, criteriology, and methodology; the pursuit of the second, the special metaphysics of matter and mind, and general metaphysics.[2]

The outlines of such a philosophical system, in which, as Wundt writes, " metaphysics is given the central place," was bound to cause astonishment, and to seem strangely reactionary at a time when empiricism was all the vogue, and the publication of the *System der Philosophie* in Germany, in 1889, was a striking occurrence.

[1] *System der Philosophie* S. 18, 21.
[2] *Ibid.*, S. 33, 34.

And Wundt's position as physician and psychologist contributed in no small degree to the surprise of the scientific world. These six hundred pages appearing in the form of a solid treatise as the conclusion of a life passed in laboratory and experimental work, are most instructive.

Even in his preface Wundt, knowing well the effect he was about to produce, took care to define the *character of his metaphysics*. "I think it is important to declare at the outset that, to my mind, metaphysics is neither a sort of poem based upon fiction, nor a system to be erected by the reason with the help of *a priori* premises; but on the contrary, I mean experience to be its basis, and its method to be that which is in use in the various particular sciences, and which consists in connecting facts with one another by means of the principle of sufficient reason."[1]

Let us look more closely at this *principle of sufficient reason* upon which the whole of Wundt's

[1] "I consider that metaphysics should properly aim, not at confining this connection to determinate spheres of experience, but at extending it to the whole field of experience. That the problem of knowledge can only be resolved with the help of presuppositions that are not obtained empirically, this is a thought which is already familiar to experimental sciences. I also think that philosophic metaphysics has no need to reconstruct itself afresh, but that it should find its starting-point in such elements as *ex hypothesi* are provided for it by particular sciences. It must examine these elements logically, make them harmonize with one another, and unite them in a whole that is free from contradictions. It may be doubted whether it is right to apply the old name of metaphysics to an investigation of this kind. But I believe that, if the general object of a science remains the same, any change of aspect or of method should not prevent us from keeping its name unchanged."—*System der Philosophie*, Vorwort, S. v., vi.

thesis rests. We must do so all the more narrowly because it plays a considerable part in the very important portion of his *System* which deals with transcendental ideas.

On this principle, which Wundt regards as introduced into philosophy by Leibnitz, is founded the rule whereby we must connect together all the parts of human knowledge, if their connection is to be free from contradictions; the law whereby the mind binds together the objects of thought by relations of reason and consequence, thus establishing relations of dependence between them.[1] It is not only, like the principle of identity, a law of judgment that compares, but a law of knowledge that conceives.[2]

By this, we can define the logical connections not only in the range of actual experience, but also in the sphere of merely possible experience; and this crossing beyond the borders of all real experience is not only what we can do, but we are bound to do it in order to complete the data of reality. Indeed, we are driven to give the principle of sufficient reason *a universal scope*. The fact that it is a law governing all scientific investigation obliges us to apply it to every kind of content, to every object of thought. For, because we only possess a limited number of facts, we must not pull up short just where experience is no longer practicable. "It is absurd to demand a general linking together of those parts of the cosmos which are accessible to experience, if we refuse to admit their connection with causes and effects not given by experience."[3]

[1] *System der Philosophie*, S. 77 *ff.*, 175, 176.
[2] *Ibid.*, S. 88, 89.
[3] *Ibid.*, S. 201.

The principle of sufficient reason presupposes, indeed, connected elements forming parts of a whole. But if one of the two elements is given in experience, is it not plain that the other must be looked for beyond it? The human mind feels an ultimate need of knowing the primary reason of things. Let men say what they will, it cannot be confined within the narrow borders of empiricism. It is imperiously driven to unify all knowledge.[1]

But this work of unification must be wrought in a threefold order of ideas, to which *three kinds of problems correspond*.

The first order of knowledge, whereof the ultimate terms must be found outside of experience, is that of our subjective or immediate knowledge. It is psychology. The second is that of our objective knowledge, the natural sciences—*i.e.*, cosmology.

But between immediate or subjective psychological knowledge and the knowledge brought into play in the natural sciences—*i.e.*, mediate or objective knowledge—the difference depends on a distinction already remarked when we were setting these two kinds of knowledge in opposition to one another; the one, cosmology, abstracting the subject from the concrete data of representational activity, and the other, psychology, insisting on the contrary on the subjective and genetic aspect of such data. Can we thus separate the object from the representation, without bringing an abstractive act to bear upon a content which is really one, and yet capable of being regarded from a twofold point of view?

[1] *System der Philosophie*, S. 188-190.

Besides, we cannot allow the two orders of knowledge to coexist, but we must get rid of all duality to return to the single fact of experience. Hence arises a new work of completion, the result of which should be the unification of the two orders, the *cosmological* and the *psychological*, into one *ontological* idea, because in each of the two orders of ideas we must finally come to *two ideas*—the one, of final condition or *final unity ;* the other, of *indefinite totality*.[1]

Therefore the special sciences demand a complement. Can they not provide it for themselves ? No, replies Wundt. The understanding which they call into play does not arise from the data of experience, and it only has to explain facts.

On the contrary, reason goes beyond experience. If the understanding is satisfied with comprehending the world or mind, the reason seeks for their causes. Both of them doubtless make use of the principle of sufficient reason, but " it is only when its universal value is discovered that reason arises."[2]

To explain this diversity of aim and this difference of view-point, Wundt calls the objects of reason *ideas* (*Ideen*) and not *concepts*, and consequently it is to the *reason* that he assigns the office of resolving *transcendental problems*.[3]

[1] *System der Philosophie*, S. 179, 180, 206.
[2] *Ibid.*, S. 189.
[3] *System der Philosophie*, S. 181, 182. Here Wundt appears to follow Kant's use of the word *idea*, and he also gives him the credit of being the first to perceive clearly these transcendental problems, but he immediately parts company with the famous philosopher and brings against him these two reproaches: first, that he has dug an impassable dyke between the knowledge of the understanding and

Mathematics affords remarkable instance of the necessity felt by the mind of going beyond experience. We know from the way in which it makes use of the principle of sufficient reason *two kinds of transcendence,* and we understand the value of transcendental ideas. In fact, in a mathematical series, if it run to infinity, there will be sometimes *real quantitative transcendence,* sometimes *imaginary qualitative transcendence.*

In the first, the series assumed to be infinite is qualitatively always the same. We come to no values other than those with which we began, and which we have found in reality. The transcendence arises from our going beyond experience in the direction of infinity. Between all the factors there is only a quantitative difference. We confine ourselves to making a reality *not given in experience,* such as the notion of a line produced to infinity.

As for the second, it states a *pure possibility of thought.*[1] Here the result of the mental operation is to make new concepts, differing in their qualities from those found in reality, and incapable of being applied immediately to real things; as, for instance, the square root of a minus quantity.

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that of the reason, by his " monstrous conception " of the thing-in-itself; next, that he has subordinated the solution of transcendental problems to the postulates of the immortality of the soul, free will, and the existence of God. Doubtless, he says on the first head, " our objective knowledge consists only of concepts which we are obliged to form by all the motives arising from our need of correcting the contradictions of our perceptions. But when this correction has been made with accuracy, we have no reason to doubt the objective reality of objects corresponding to our concepts." (S. 185). Cf. *Logik,* I., S. 546-557.

[1] *System der Philosophie,* S. 196.

These two kinds of transcendence are also to be met with in philosophy. In each of these two orders, one real, the other imaginary, reason is led, in philosophy as well as in mathematics, to a two-fold idea of infinity, the *infinitely little*, which is represented by *unity*, and the *infinitely great*, the metaphysical equivalent of which is *totality*.

No one has ever thought of disputing the value and utility of the infinite in mathematics. May the same estimate be made of the transcendent, whether real or imaginary, in philosophy? Wundt replies, that real transcendence possesses in philosophy the same value as in mathematics, but, in the first place, we might doubt whether the same holds good of imaginary transcendence.

Historically, it was Plato who, according to Wundt, was the first to try to introduce imaginary transcendence into philosophy. In the theory of Platonian *ideas*, the question at stake is not the provision of a simple explanation, but of a completion of experience. We do not pursue experimental data quantitatively, but end by changing them qualitatively; the idea of the real is stripped of the sensible envelope with which it is clothed in experience.

But, in spite of the risks it involves, may we not admit that this imaginary transcendental idea, although unreal in itself, has often thrown light upon the concepts which reality has obliged us to form? Do not Plato's ideas and Leibnitz's monadology, although they may not state the truth, indicate the course to be followed in order to satisfy the need of unity felt by the reason? Every system

of any real importance contains at least some true idea. Thus the theory of ideas has led to the conviction that our knowledge of the world comes not from sensible experience, but from the power of concepts; and the principle of continuity formulated by Leibnitz will be probably among those that survive.

Thus in philosophy imaginary transcendence may possess a value analogous to that which it has in mathematics, where it often leads to a deeper understanding of real concepts, by enabling us to regard them from a more general point of view. But in any case it cannot contradict experience. On the contrary, we shall insist that it must start with real facts, and its distinctive character will consist, not in regarding facts in isolation but in embracing them in their totality.[1]

This is the sphere of *permanent hypotheses*. Granted; but if special sciences require hypotheses, how can metaphysical science do without them? In special sciences, hypothesis is merely a means of establishing some connection between real facts. In metaphysics, it will also help to complete the data of experience, and will presuppose, in the sphere that is inaccessible to empiricism, the conditions required for the formation of a single whole that satisfies the reason.[2] In both cases, that which

[1] *System der Philosophie*, S. 197-200.

[2] "*Ideas* can never be the subject of a *demonstration* properly so called. In them we may indeed find presuppositions, which the reason cannot help *conceiving*, when it passes beyond the borders of experience, and seeks the final sufficient reason of observed facts, but their *existence* does not appear to be a necessary inference from the given premises."—*System der Philosophie*, S. 439.

inspires the making of hypotheses is the same need of the mind, the absolute need of unity.

We are now agreed as to the *diversity* of transcendental problems. They are three: the *psychological* problem, the *cosmological* problem, and the *ontological* problem; and as to the *data* of these problems, they are provided by *experience;* and as to the *means* for resolving them, by making use of the *principle of sufficient reason;* and lastly, as to the *scope* of the solution, the conception by the *reason* of the two ideas, the one of *unity*, the other of *totality*, the results of transcendental procedures similar to the procedures of real and imaginary transcendence familiar to mathematicians. The transcendental problem in which we are directly interested is that of *psychology*. What are the *general conditions* of this first problem? What is its *end?* On what *transcendental process* does its solution depend?

As for psychological ideas, says Wundt, in substance, historically two conceptions are found in conflict: the *individualist* and *universalist* hypotheses; and according as the essence of the mental (spiritual) has been referred to volition or to representation, these hypotheses have been subdivided into opposing subhypotheses, intellectualism and animism.[1]

[1] Leaving aside modified intermediary forms, hence have arisen four fundamental metaphysical conceptions: *intellectualist individualism* (Herbart), which regards the ultimate unit as a soul-atom (*Seelenatom*), which is pure quality; *animist individualism* (Kant), which gives pure transcendental apperception, which is the simplest volitional activity, as the condition of all representation; *intellectualist universalism* (Spinoza), which chooses an infinite intelligence as the final totality; *animist universalism*

From this division of all the systems Wundt derives the *general conditions* of the psychological problem.

The idea of the *soul* may indeed be found in an individualist, or in a universalist, form. Philosophers were long disinclined to adopt the idea of uniting all souls in a spiritual (mental) total cosmos. The idea of an individual soul was long exclusively dominant in the history of psychology. Some regarded it as the idea of an object of experience, others saw in it a simple auxiliary notion intended to explain the connexion of the data of inward experience. But empirical psychology knows not what to do with these auxiliary notions, for the immediate facts apprehended by inward experience are free from contradiction, and hence need neither the correction nor the complement demanded from auxiliary concepts. Hence, according to Wundt, one can only attach a transcendental signification to the notion of the soul.

The one *aim* of transcendental psychology is, by means of the principle of sufficient reason, to discover in immediately empirical facts their connection and final reason in such a way as to cut short any ulterior inquiry.

As for the *transcendental process*, it is necessarily imaginary as well as real in psychology. Neither

(Schopenhauer, though not without some restrictions), which prefers the theory of a universally distributed and active volition. (Leibnitz, an individualist and intellectualist, passes, owing to his idea of the supreme monad, to universalism.) Cf. *System der Philosophie*, S. 209, 210.

And these four conceptions are further complicated by a tripartite division of philosophic answers to the problems of ontology into Materialism, Idealism, and transcendental Monism. Wundt here calls *animism* what he elsewhere terms *metaphysical voluntarism*.

the spiritual cosmos nor the individual soul can without absurdity be conceived only quantitatively, the latter as an individual unity, the former as an indeterminate totality. It would be to take away from them their spiritual character, for "the spiritual must possess quality."[1]

This imaginary character of all the psychological hypotheses causes them to give rise to many more doubts than the solutions of the problems of cosmology; but yet they have the advantage of co-ordinating our experimental knowledge with their unexperimental presuppositions, in a system "enclosed within itself" of causes and consequences, and thus they afford the reason the satisfaction that it seeks from transcendental ideas.[2]

The psychological problem, moreover, is especially interesting for individual and social life.

What is the first question involved in the psychological problem? Its end, says Wundt, is the *idea of the individual soul*. Since the question comes to be one of applying to the *data of experience* the *principle of sufficient reason*, let us first of all ask, what are the *data of experience?* They are the representations, or rather the representational acts, with which is bound up a twofold feeling: that of our own *activity*, and that of our own *passivity*.

We are *passive*, indeed, with regard to representations, for we are conscious that their matter is given us without our having to create it. We are *active* in our representations, for we are conscious of making them arise, or of modifying them when they are already formed in us. The twofold inward

[1] *System der Philosophie*, S. 371. [2] *Ibid.*, S. 372.

feeling, inseparable from the immediate data of experience, thus implies the presence of *objects* the action of which we undergo, and the exercise of an action by ourselves upon objective representations. " The analysis of immediate experience thus gives this result: on the one hand, an activity and a passivity which vary in mode, and on the other hand, the objects of this activity and passivity —*i.e.*, representations."[1]

Representations may, in a certain way, be detached from the Ego, and be conceived as independent objects. But the active and passive states possess this peculiarity, that they are essentially involved in consciousness and cannot be isolated from it.

Does this mean that these two states have the same immediateness of connection with the Ego ? Assume that, by thinking, we eliminate the objects represented and the external relations of our conscious states with such objects, do passivity and activity each preserve the same connection with the Ego ? Are these states so complex as to defy a final endeavour to analyze them ?

Indeed, no. Activity belongs more immediately to inward experience than does passivity. In fact, we cannot help referring passivity to the activity of the object presented to us, so that activity appears to us to be strictly primary. " We find the origin of all our active and passive states in a reciprocal *activity* of subject and object."[2]

Activity proper, thus considered in itself, the source of our activity and of our passivity, we call

[1] *System der Philosophie*, S. 381. [2] *Ibid.*, S. 386.

the *Ego*. This Ego, isolated in thought from the objects upon which it acts, is our *will*. "There is then nothing, absolutely nothing, either outside of man, or within him, which he can rigorously call his own, proper to the Ego, except the *will*."[1]

Such, strictly considered, are *the data of consciousness*. Let us now apply to them the *principle of sufficient reason*.

The principle of sufficient reason obliges us to go back from a transitory state of inward experience to another presupposed state, from the volitional elements of a first state to the prior volitional elements that have predetermined them.

And when we have got rid of everything in the content of experience that is accidental and external to the subject as such, the volitional activity itself will alone remain, apperception pure and simple, conceived as independent of all determinations of the content. This ultimate condition of all inward experience Kant called *transcendental apperception*.

It must be regarded as an incessant activity.

But since every activity presupposes necessarily the objects upon which it is exercised, transcendental apperception, or pure will, is an *idea* of the reason which excludes all experimental realization. Moreover, it is of no use to empirical psychology.[2]

[1] *System der Philosophie* S. 386, 387.

[2] *System der Philosophie*, S. 388. There is, however, another conception of the soul which depends upon the understanding, and which empirical psychology can turn to account as an auxiliary hypothesis. It is this: it regards the soul not as pure will without an object, but as a compound unity, a "spiritual organism." This is, in fact, nothing but the living body itself. The soul and body, in virtue of this conception, do not really differ. Between the

Thus two ways are offered to us for a transcendental regression: we may either go back to the object of representation, leaving completely on one side the activity connected with the representation, and thus attain to the concept of an absolute and substantial quality, immutable in itself; or else, eliminating representations as being the simple objects of this activity, we may go back to the concept of this activity itself. On the one hand, we get the idea of a *soul-substance* (*substantieller Seelenbegriff*), on the other, the idea of a *soul-activity* (*actueller Seelenbegriff*).

The second conception, according to Wundt, is to be preferred. Alone does it take sufficient account of the will and of its development; alone is it found to be in accord with the fact, that all know-

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two there is only the difference of aspect. The one, the concept *soul*, enables the living body to be regarded from the aspect of inward experience, the other concept allows it to be regarded from the aspect of outward experience.

This empirical concept of the soul may be used for the nterpretation and explanation of psychic facts. It assumes, indeed, that a physical process corresponds with every psychic process (psycho-physical parallelism). Thanks to it, we can mend the breaks in the chain (*i.e.*, the interruptions in the continuity of inward experience) of psychic processes with the help of intermediate links provided by the physical processes. S. 389, 582, 583.

This concept leads one to attribute to all the elements of the organism a "psychic aptitude," a kind of instinctive tendency dimly endowed with consciousness.

A superficial consideration of these statements might make one think that they were in disagreement with the preceding doctrine of Wundt, which denies the use of "auxiliary concepts" in psychology. But the contradiction is only in appearance. There, Wundt was speaking *strictly* from the point of view of *inward* experience; here, he is regarding psychic facts *in their relation to physical processes*.

ledge refers representations to objects given to thought as the matter of its activity.[1]

Nevertheless, the idea of the soul we have now reached is individual and finite, and it cannot suffice. We must carry on this idea to that of a *spiritual totality*, the outcome of a *universal psychological regressus*.

The soul, indeed, as substance or as activity, must be connected with the other spiritual unities, for, being transcendental will without an object, it would remain ever void of content, and this hypothesis would be unthinkable.

But the idea of a spiritual totality may take two very distinct forms. It may go so far as to deny to the individual any real autonomy, rejecting as a delusion the psychological reversion to unity. Such was the common characteristic of most of the universalist conceptions of the world—conceptions which by this excess, especially in the case of Spinoza and of Schopenhauer, encountered great difficulties that led to their failure.

Can it be supposed, indeed, that the spiritual whole, as the universal principle, is a unity, the essence of which consists in *representation?* Such a unity would be lacking in activity. Can it be supposed that the essence of this unity is *will?* Will, as universal principle, would be a unity without content.[2]

Hence we must abandon the hypothesis of a universal principle which would swallow up the autonomy of the individual unit. Hence, there only remains one hypothesis: the spiritual totality

[1] *System der Philosophie*, S. 391. [2] *Ibid.*, S. 392–396.

must be a collective will in which volitional units subsist.

The data of experience justify the conclusion drawn from this *regressus*. Experience shows us, indeed, in the family, the tribe, the corporation, so many groupings of individual wills, associated with one another by reciprocal action, and thus each one forming a whole. Each whole has a place in a scale wherein, from the individual to the nation, from the nation to the whole civilized world, the spheres of the volitional units become more and more comprehensive.

This scale, such as it is perceived by experience, stops at a last step, but reason cannot stop there. The principle of sufficient reason obliges us to pursue the series mentally, beyond experience, in two directions. This ideal series begins with the pure will which we have already considered, and ends in a total human will in which all individual wills are united for the conscious pursuit of their ends.

Doubtless, this *ideal humanity* of the future is not a fact of experience: it is a presupposition of experience. But it is nevertheless the term to which all human wills in their evolution are and must be directed. They progressively approach this term, without ever reaching it.

Therefore the idea of *spiritual totality* possesses, thus differing from other transcendental ideas, a practical importance of a moral nature, seeing that it is the rule of our actions.

The psychological *regressus* of the individual has brought us to an Ego, to pure will. How does the Ego, thus conceived, become a representative Ego ?

Representation is not a primary fact, in the same way as the will. It follows upon the interaction of wills. Representations, in their turn, unite volitional individualities into collective wills.[1]

Language is, in fact, the bond of union between individuals, and the natural means whereby they realize a common will between themselves.

It is, then, by entering into relation with other volitional units, and by the fact of its participation in the totality of minds, that the individual will becomes a representative and concrete reality.[2]

Let us return for a moment to the moral evolution of wills. What is the source of their tendency towards an ideal term, that of future humanity? The will possesses an unlimited capacity, and ideal humanity will be inevitably limited both in space and time. Where, then, shall we find the *raison d'être* of this ideal term, and of the movement towards it?

Ideal humanity necessarily demands, says Wundt, a transcendental idea of a complementary kind. This is the *idea of God*, the idea of an unknowable, perfect, infinite Being, whereon ideal humanity necessarily depends. Because ideal humanity can never answer for us to the requirements of an infinite totality, we replace it by the idea of an

[1] "Since the individual psychological *regressus*, which gave us pure will as the last condition of individual being, must take place in the case of all the elements that constitute a spiritual community, representation no longer appears as a primary fact, but as a product of the plurality of wills; whether, on the one hand, reciprocal action intervening between wills produces representation; or whether, on the other hand, volitional elements make use of it as a means of forming higher volitional units."—*System der Philosophie*, S. 403.

[2] *System der Philosophie*, S. 397-403.

infinite God, the supreme reason for such an ideal. And thus the moral idea finds its logical complement in the religious idea.[1]

What is the result of the *regressive* method which we have applied in the foregoing pages to *psychology?* To what result does the same method lead in *cosmology?* And how do the results harmonize?

The *psychological* regression, on the one hand, has brought us to the idea of a transcendental apperception, pure will, devoid of objects, but the ultimate indispensable condition of all inward experience. On the other hand, the *cosmological* regression in the system has led on to the idea of an infinite totality of final units, without being able to determine the proper being, material or spiritual, of such units.[2]

Are these two parallel results to be allowed to stand? That would be to profess a dualism which is repugnant to our fundamental tendency towards unity, and it leads to insoluble difficulties.

Hence we are driven to this alternative. We must represent to ourselves every reality under the form of *inward* experience, which means *idealism;* or under the form of *outward* experience, which means *materialism.* Outside these two hypotheses, there is only room for purely imaginary forms, the reality of which cannot be warranted by any experience.

Which of the two are we to choose?

When we distinguished the two points of view, the one cosmological, and the other psychological,

[1] *System der Philosophie*, S. 403-406.

[2] These units are the material atom or the mathematical point, according to the point of view from which they are regarded.—*Ibid.*, S. 207, 363, 364.

what criterion did we make use of? Experience? No; for the content of immediate experience never presents us an object without some participation on the part of the subject, nor an act of consciousness without some represented object. The distinction of our two points of view was then the effect of an abstraction, and hence we cannot stop at it as if it were a definitive end of our inquiries.[1]

The primary fact is one, and intuition (*Wahrnehmung*) perceives it as one: understanding (*Verstand*) isolates in it the subjective aspect, the will and impression, and the objective aspect, the concept. Reason (*Vernunft*) pursued the two series as far as it could, the one subjective, the other objective, thus dissociated by the abstractive act of the understanding.

Thus we discover in the dualism of the results of our two regressions what appears to be an indication of the dissociation effected at the outset by the understanding, and at the same time we understand the need of resolving into a final unity the dualism which the regressive method has run against.

Moreover, since the transcendental apperception is pure will, the gap must be filled with objects, and its relation to them must be discovered. Those unities, too, which the cosmological regressus brought to light, require to be determined. Hence the duality of the two parallel series should disappear. What is to be the higher *ontological unity* that will get rid of it?

[1] "This opposition between the spiritual and the material may no doubt serve in a transitory way as an auxiliary concept for empirical psychology, but it cannot be regarded as the ultimate foundation of real occurrences."—*System der Philosophie*, S. 560.

It is *activity*, and this is *will*.

It is *activity*.

The end of the psychological regression, pure will, is pure activity. But this pure will becomes representative. Now, the representative fact possesses an element of passivity, and therefore there must be an active cause to explain the passivity of our representational states. But, apart from the subject, in representation there is only the object. Hence objects must be *active*.

And their activity is *will*.

Indeed, the only activity we know is that of the *will*. Hence, if objects are *activity*, they are *will*. Therefore the object must be regarded as a *volitional unit*.

The cosmos is a *totality of volitional units*. The interaction of volitional units begets representations, and thus volitional units become representational beings.[1]

"*The world is the totality of volitional activities which determine one another by means of representational activity and thus become ordered in an evolutionary series of volitional units of varied scope.*"[2]

Thus, the world is a graduated series of conscious beings. "Nature (Matter) is the threshold of spirit (mind)," *Die Natur ist Vorstufe des Geistes*.

This totality of volitional units recalls the *monadology* of Leibnitz. In both cases, there are conscious beings modelled on the conception of the Ego; in

[1] *System der Philosophie*, S. 407-420.
[2] *Ibid.*, S. 421.

both cases, unlike Schopenhauer's pantheism, there is a multiplicity of elements. Nevertheless Wundt will not call his volitional units *monads*. For the monad of Leibnitz and Herbart is a *substance* endued with activity.

But the volitional unit, the final basis of being, cannot be a *substance*. The characteristic of substance is, in fact, permanence. The mind conceives the *object* apart from the subjective act that presents it to consciousness; and this *object*, isolated from conscious activity, possesses a relative constancy: the mind then carries on the concept of the object to that of an object pure and simple, possessing an absolute constancy; and thus we get *substance*.

But the primary foundation of being can only be conceived as activity, will. Hence, it is a contradiction to think of it as inert and permanent—in short, as *substance*. Therefore volitional units cannot be identified with the substantial monads of Leibnitz and Herbart, even if they are considered as endowed with activity.[1]

From this fairly detailed analysis of the works of Wundt what general conclusions are to be drawn from our own point of view?

Wundt is still enveloped in *idealism*. He was not able to break away from the shackles of Kant's critique, nor to escape entirely from his *metaphysical agnosticism*. Nevertheless he believes in the *reality* of the facts of experience, and, contrary to Kant, declares that " the thing-in-itself is not, as he thinks,

[1] *System der Philosophie*, S. 427-429.

hypothetical in the sense that its whole content must be treated with caution. It is hypothetical in the sense that certain of its elements belong to ascertained knowledge, while others wait upon the indefinite development of human knowledge in order to be brought to light."[1]

The transcendental problems of cosmology, psychology, and ontology, are not capable, according to Wundt, of scientific solutions belonging to the understanding. But, on the other hand, they are not indecipherable enigmas. Relying upon the principle of sufficient reason, we can connect transcendental ideas with the facts of experience. If, then, Wundt remains in bondage to subjectivism, he carefully and constantly tries to link up his highest metaphysical speculations with the surest facts of experience.[2]

A close examination of the complexity of the content of experience revealed to him the arbitrariness of the exclusive *intellectualism* of many psychologists, and he restored will to its place of honour in the life of consciousness. But the German philosopher allowed himself, too, to be carried to extremes. For the intellectualism he was fighting against, because it was so exclusive, he substituted a metaphysical voluntarism quite as extravagant, besides its disagreement with the real dicta of consciousness.

Furthermore, Wundt's metaphysical structure has in it more than one inconsistency. We cannot

[1] *Logik*, I., S. 547.

[2] Volkelt claims Wundt in favour of the possibility of metaphysics, against prevalent idealism.—*Erfahrung und Denken*, S. 538.

discuss it in detail,[1] but a few general remarks are demanded.

First, how can pure wills, devoid of all objects, be regarded as able to act upon one another? Why should the interaction of purely volitional units be thought a sufficient reason for the origination of representations? Whatever Wundt may say, this representativity which suddenly springs up from an entirely volitional activity is very like a creation *ex nihilo*.

Next, in Wundt's philosophy, the *object* of representation sometimes signifies the *ideal* term of the representation, sometimes a *material thing*, according to the needs of his system. Here we have a fundamental equivocation. When Wundt speaks of representation, the *object* is the result of an act of abstraction of the understanding, whereby the subjective impression is isolated in consciousness from the term of the representation. Hence, the object has only an ideal existence. But, when he wants to explain the passing of the will from the state of pure will to that of a subject endowed with the power of representation, he makes the object a *reality* which *acts upon* the will. How can these two offices ascribed to the object be reconciled with one another? And yet from this confusion mainly arises the author's *monism*.

Lastly, how can strict logic, which, according to Wundt, must make transcendental deductions start from the data of experience, be reconciled with the position that the ideas of the reason cannot be an object of *demonstration* rightly so called?

[1] Many parts of the system are closely examined by Gutberlet, *Wundt's System der Philosophie*, S. 281, 341, in the *Philosophisches Jahrbuch*, 1891.

The last chapters of the *Grundzüge der physiologischen Psychologie* review the opposing theories of *materialism* and of *spiritualism*, the latter being understood in the sense of Cartesian psychology.

Neither of these theories withstands the examination. *Materialism* fails to recognize the priority of consciousness to outward experience, says Wundt, and it tries to establish an utterly unintelligible identification between the phenomena of consciousness and nervous processes. *Cartesian spiritualism* relies upon ambiguities. It infers, for instance, from the *unity* which is peculiar to the phenomena of consciousness, the *simplicity* of the principle from which they spring. It is powerless to explain the reciprocal action of body and mind, because, instead of putting a common bond between the two, to account for their mutual dependence, it opposes them to one another as irreconcilable antagonists.

If Wundt could set himself free from his idealist and positivist prejudices, and get rid of his false notion of *substance* taken from Kant, and follow freely the bent his own investigations have given him, he would logically be bound to make the fundamental theories of the Aristotelian psychology his own. He would no longer put the characteristic mark of psychology in consciousness. He would accept in all the bearing given to it by Aristotle and the Scholastics, the notion which regards the *soul* as the "first entelechy of the living body." And the soul, thus understood, would appear, in full truth, as "the empirical concept which is everywhere made use of when there is a real and

successful study of empirical psychology, and not barren speculation."[1]

Here, in fact, we have the final conclusion of the *Grundzüge der physiologischen Psychologie:* "We cannot fail to admit that animism "—*i.e.*, as Wundt's context shows, that anthropology which defines the soul as the principle of life—" succeeds better than other psychological theories in taking account of the facts of experience, and therefore in connecting the phenomena of consciousness with the general manifestations of life.

" All the investigations of psychology lead us to infer the solidarity of psychic processes and physical processes. Therefore it is proved that the psychic life has the physical life as its necessary basis. Nevertheless, animism cannot be regarded as a definitive solution of the problems of life. To be accepted as such, it does not suffice for it to be in agreement with experience, it must also have a reply to the criteriological objections which neither materialism nor spiritualism, in their historical forms, can face."[2]

Wundt's psychology thus remains impregnated with the agnostic idealism which is the outcome of the psychological systems that sprung from Cartesianism, but it shows a reaction against the antagonism set up between the philosophy of matter and the philosophy of mind; it inaugurates a movement of thought which is favourable to the restoration of immanent finality to nature, and which, in psychology, helps the revival of the metaphysical theses of Aristotelian and Scholastic anthropology.

[1] *System der Philosophie*, S. 389.
[2] *Grundzüge*, II., 4 Aufl., 1893, cap. 23, S. 635.

III

The General Characteristics of the Psychology of To-day

The state of mind we have met with in the masters of psychology, we shall discover anew in the intellectual atmosphere around us, and we shall find it also in facts.

What are the general characteristics of psychology to-day?

They may be reduced to three.

Descartes reduced psychology to the study of thought. So, to-day, the *subject-matter* of psychology is confined to the *facts of consciousness*.

Metaphysics in general, and consequently what was formerly called *rational* psychology, are almost *universally given up*. On the other hand, metaphysics in the Kantian sense, *i.e.*, *idealist criticism*, the sole object of which is to determine the limits of thought, is everywhere predominant. It is above all under this influence that positivism appears in the garb of *phenomenalism*, and psychology, confined to the investigation of consciousness, makes further and further progress toward an *idealist* and *subjectivist monism*.

On the other hand, empiricism and the mechanical theory have helped to fasten the attention of psychologists upon the *quantitative* aspect of psychic phenomena. The inquiries of *experimental psychology* have taken a great leap forward, and open up a future full of promise.

The doctrine that *the sole subject-matter of psychology is the facts of consciousness* has now become a dogma.

Physical and physiological phenomena are considered to form a department by itself, and to depend on external observation. Psychic facts form a second department separate from the first, and they can be observed by consciousness: they are ranged under the common name of *thought,* and *soul* or *mind* is the name given to the subject that gives them attention.

It matters little, moreover, whether with some " out-of-date " psychologists one admits the existence of *faculties,* or whether with the phenomenalists one holds all that is not a present instantaneous *fact* to be but vain entities, " phantoms begotten of words "; in either case consciousness is called upon by all to form the line of demarcation between physiology and psychology, between the domain of mind and matter.

When, in his third *Méditation,* Descartes tried to enumerate his " thoughts," he put them into two general groups: those that are " as the images of things," such as are one's thoughts of a man, a chimera, of heaven, of an angel, of God; and those that comprise something more than the simple representation of a thing, such as thoughts translated by such expressions as " I wish," " I fear," " I affirm," or " I deny."

He reserved the name of " *ideas* " exclusively to the thoughts of the first class, and then he subdivided the thoughts of the second class into subgroups of a rather vague kind, comprising " *volitions, affections,* and *judgements.*"

In this way Descartes departed from the traditional classification in two directions. It was generally admitted before his day that the *idea*, or rather the simple representation, and the *judgement* were phenomena of the same order, and that they belonged to the same kind of faculties, called *apprehensive* or *cognitive*. On the other hand, before Descartes' time *affections* and *volitions* were referred to the same class of faculties, those called *volitional* or *appetitive*.

But here was Descartes setting the *judgement* in opposition to the *idea*, as if these were thoughts of different kinds. At the same time, he appears to put the same distinction between *affections* and *volitions* as between judgements and affective or volitional phenomena.

The opposition between the *idea* and the *judgement* did not survive the writer of the *Méditations:* and they continued to be classified both under the common names of *mental* phenomena or *thoughts*. But, in consequence of this confusion of the *mental* phenomenon with the inward fact or "thought" *in general*, a fresh ambiguity slipped into the language of philosophy.

A rigorous analysis of inward acts led to their arrangement in two different orders, the one *sensible* and *material*, the other *suprasensible*, *immaterial*, and *spiritual* or *mental*. The former are intrinsically and immediately connected with the physico-chemical processes of the bodily organism, the latter are only subject to the laws of physical nature, indirectly and extrinsically, by means of the former. The old Scholastics unanimously respected the

distinction of these two orders of inward facts. They attributed to the *inner sense* the feeling of the existence of the former, and reserved the name of *consciousness* to the intuition of the second.

But, following Descartes, who gave the common name of *thought* to all the processes of which we have an " inward perception," people grew accustomed to group together under the common and supposedly synonymous name of " thoughts," and " conscious " facts, sensible as well as suprasensible acts. Gradually the distinction of nature formerly set up between them vanished to such a degree that, for a very large number of psychologists, there is no longer any essential difference between *knowing* and *mental* knowledge, *perception* and *understanding*, the *psychic* and the *mental*, the *inner sense* and *consciousness*.

Hence follows the very natural inference that there is only a difference of *degree* between the animal and man.

As to the distinction suggested by Descartes between *affective* phenomena and *volitional* acts, it gradually crept into modern philosophy. We know the importance of the " *lesser perceptions* " or " *dull perceptions* " in the Monadology. Leibnitz regarded them as states of soul of which we are dimly conscious, and he therefore opposes them to the clearly and distinctly conscious states, to representation and volition. Owing to the influence of two German philosophers, Sulzer and Tetens,[1] the Leibnitz *feeling* was soon regarded as a faculty in itself, distinct from the apprehensive and appetitive

[1] Tetens, *Philosophische Versuche über die menschliche Natur und ihre Entwickelung*. Cf. Windelband, *Geschichte der Philosophie*, 2te Aufl., Freiburg, 1899, S. 418.

faculties. And Kant gave this classification the weight of his authority.

Henceforward, the threefold division of the "faculties of the soul" into *understanding*, *will*, and *sensibility*, or of "psychic facts" into *mental*, *voluntary*, and *affective* facts, was almost universally accepted.[1]

We shall dwell no more at present upon this first general characteristic of psychology, for we shall have to return to it in our next chapter in order to discuss Descartes' psychology.

The second general characteristic of psychology is the *abandonment of metaphysics*, and notably, of *rational psychology*. *Metaphysical agnosticism* becomes, mainly under Kant's influence, *phenomenalism*, and the dominant desire of psychologists not to go outside the phenomena of consciousness leads most of them to *idealist* and *subjectivist monism*.

The triumph of agnosticism in the sphere of metaphysics involves the negation of *faculties*, of the

[1] There is no need to prove the general agreement of psychologists as to the exclusive attribution of conscious phenomena to psychology, and as to the tripartite division above mentioned. Here we quote, by way of example, Alexander Bain, in his *The Senses and the Intellect*: "Mind is opposed to matter, as subject to object, the inward world to the outward world, extension to non-extension. The phenomena of non-extension are commonly classed under three heads: 1. *Feeling*, which includes, though not exclusively, pleasures and pains. Emotion, passion, affection, feelings, are but so many names for feeling. 2. *Volition* or will, which embraces all our activities so far as they are directed by feeling. 3. *Thought*, intelligence, or perception.

As to our *sensations*, they come partly under feeling, partly under thought.

The sum of these three classes of phenomena makes a definition of mind."

substantial Ego, and finally, of any possibility, beyond phenomena, of a *thing-in-itself*.

The discrediting of metaphysics is surely not entirely the work of Kant. Francis Bacon, Hobbes, Locke, Hume, and John Stuart Mill, in England; the mechanical physics of Descartes, the sensationalism of Condillac, Comte, Littré, and Taine, in France, have also disseminated and popularized empirical and phenomenalist philosophy. Positivist ideas were in the air, writes Lange, in all the greater countries of Europe at the beginning of the present century (the nineteenth).[1]

Then the prejudice created by the extraordinary progress of experimental sciences and by their marvellous application to industry, the contrast between the certainty of their results and the sterility of metaphysical disputes in the vain discussions of the decadents of the School, filled men with distrust of speculation. And this was all the more the case, in that the antagonism set up by Descartes between body and mind, between physical, or, rather, mechanical science, which depends upon outward observation, and psychology, which was reduced to the study of inward facts by means of consciousness, led men of science to believe that the temper of psychology revolts against outward observation and natural science; and, applying afterwards to philosophy in general what they thought was true of psychology, they concluded that philosophic method is exclusive of scientific

[1] See above, p. 50. Cf. Lange, *Geschichte des Materialismus* (1866), II., p. 84; Kuno Fischer, *Francis Bacon und seine Nachfolger*, Leipzig, 1875, and *Geschichte der neuern Philosophie*, I., S. 143, Heidelberg, 1889.

method, and finally inferred that philosophy and science were in opposition to one another.

This prejudice against philosophy is clearly expressed by Comte in his *Cours de philosophie positive :*

" In no respect whatever is there any room for this illusory psychology, the final transmutation of theology, the revival of which is so vainly attempted to-day, and which, without troubling itself with the physiological investigation of our mental organs, or with observing the rational procedure which effectively governs our various scientific researches, claims to discover the fundamental laws of the human mind by regarding it in itself—*i.e.*, by getting entirely rid of cause and effect.

" The preponderance of positive philosophy has gradually become what it is since the time of Bacon. To-day it has won such a complete ascendency even over those minds which were farthest removed from its immense development, that metaphysicians given up to the study of the intelligence could only hope to slacken the decadence of their so-called science by taking steps to present their teaching in such a way as to make it seem also founded on the observation of facts. For this purpose, they have latterly pretended to distinguish with an extraordinary subtlety two kinds of observation of equal importance, the one outward, the other inward, the latter being intended only for the study of mental phenomena. This is not the place to examine this fundamental sophism. I must confine myself to indicating the chief consideration that clearly proves that this pretended direct contemplation of the mind by itself is purely illusory.

" A short time ago, it was thought that sight was explained by saying that the luminous action of bodies formed on the retina pictures representing outward shapes and colours. To this physiologists rightly objected that, if luminous impressions acted as pictures, then another eye would be required to see them. Is not this still more the case in the present instance ?

" It is palpable, indeed, that through inevitable necessity the human mind can directly observe all phenomena except its own. For, by whom would the observation be made ? We may conceive, with regard to moral phenomena, that a man may be able to observe himself so far as concerns the passions which animate him, for this anatomical reason, that the organs which are their seat are distinct from those that make the observations. Even if everyone were able so to observe himself, such observations plainly could never possess any great scientific value, and the best way to observe the passions is always to note them outside of oneself; for any extreme state of passion, which is just the one which it is most important to investigate, is necessarily incompatible with such observation. But, as for observing in this manner mental phenomena in process of manifestation, that is plainly impossible. The thinker cannot divide himself into two parts, one of which reflects while the other regards its reflections. The organ observed and the organ observing are in this case identical, hence how can observation take place ?

" Therefore this so-called psychological method is in principle radically fruitless. Further, note to

what utterly contradictory procedures it directly leads! On the one hand, you are told to isolate yourself, as far as possible, from all outward sensations. You must particularly refrain from all mental work, for if you had to make the simplest calculation, what would become of your *inward* observation? On the other hand, after all your precautions, when you have attained to this perfect state of intellectual slumber, you must busy yourself with your mental operations, when none are taking place! Our descendants will doubtless some day find such pretensions as these brought upon the scene.

"The results of such a strange method of procedure are in perfect conformity with their principle. For two thousand years metaphysicians have thus studied psychology, and they are unable to agree upon a single intelligible and soundly settled proposition. Even to-day they are divided into a host of schools which are incessantly disputing about their own first principles. *Inward observation* begets almost as many divergent opinions as there are individuals to maintain them.

"True scientists, those who are devoted to positive studies, are still asking these psychologists in vain to name a single real discovery, great or small, due to this much vaunted method."[1]

Another proof that the founder of positivism identified philosophy with the study of the human mind by psychological methods, is that, according to him, to return to the Aristotelian tradition, to start from outward observation to go on to the higher generalizatoins of experience, is to repudiate

[1] A. Comte, *Cours de philosophie positive*, I., pp. 34-37.

the mind and to forsake the method of the " metaphysicians " and to establish " positive philosophy."

" I regret that I had to adopt, failing any other, such a term as *philosophy*, which has been so much abused by the way in which it has been used in so many different senses. But the epithet *positive*, which I use to modify its meaning, seems to me enough to dissipate, even at first blush, any essential ambiguity, at least in the minds of those who appreciate its significance. Hence I shall here be satisfied to state that I use the word *philosophy* in the sense given to it by the ancients, and particularly by Aristotle—to designate the general system of human ideas; and, by adding the word *positive*, I show that I have in mind that particular form of philosophizing which consists in regarding theories, belonging to any order whatsoever, as having for their object the co-ordination of observed facts, which constitutes the third and final stage of general philosophy, which was first theological, and then metaphysical, as I explain at the outset."[1]

Thus, as we said before, the persistence of sensationalism and of the mechanical theory, originating in the philosophy of the seventeenth and eighteenth centuries; the prejudice of thinking that philosophy only recognizes one method, that of *inward* observation, and that the metaphysician is irrevocably shut out from the study of nature; the prestige arising from the progress and discoveries of the physical sciences, in favour of empiricism and to the detri-

[1] A. Comte, *Cours de philosophie positive*, Avertissement, pp. vii, viii.

ment of speculation—all these causes contributed to the rise of positivism, particularly in France and in England, quite independently of the *Critique of Pure Reason*.

But the author of the *Critique* formulated the theory of positivism.

The French sensationalists, and the English empiricists, with the exception of Hume, were *dogmatists*. Like Spinoza and Leibnitz, they accepted the fact of consciousness, and never thought of questioning its legitimacy. Even in Comte, positivism is rather a method than a critical theory. But Hume, upon whom empiricism and rationalism appear to converge, shook the common belief in certitude. Hence the past had to be revised. The problem of the possibility of certain knowledge became the order of the day. But it is the first problem we have to decide, for if the nature of things is attainable, it is only so by means of knowledge.[1]

[1] Professor L. De Lantsheere has given a very good analysis of the psychological reason of the importance assumed in modern philosophy by the criticism of knowledge.

"The source of this requirement is easily understood. It appears difficult to admit that man's mind has been in error until the new ideas came in. And yet some reason must be found for such blindness. The simplest is to suppose that the ancients never carefully examined the very basis of knowledge, and that they failed to understand its limits. How could they formerly assert the certainty of things which we have to-day decided to be false, if it were not for want of method, and through failure to recognize the true criterion and the true conditions of certitude? Further, every important epoch of the new philosophy begins with a revision of the knowing faculty. Thus it was that Descartes, with the help of doubt, undertook to resolve the question that vexed him, when he was confronted with the incoherencies of the Scholastics of the seventeenth

And it was Kant who was the first to tackle it straightforwardly: his critical genius broods over all the philosophy of the nineteenth century.

Kant's *Critique* led to two incoherent conclusions —the possibility of an empirical certitude, and an inevitable agnosticism in metaphysics. These two conclusions coincide with the two aspects of positive philosophy, the one affirmative, the other negative.

In fine, Kant concluded that man's mind can know nothing but the phenomena of experience, perceived in the intuitions of time and space, according to the subjective laws of the categories. Plato's distinction between the *φαινόμενον* and the *νοούμενον* has therefore no meaning so far as human knowledge is concerned. The only knowable *νοούμενον* is the *φαινόμενον*. A metempirical *νοούμενον*, a thing-in-itself, is nothing to an intelligence which is subject to the conditions of *human* knowledge.

Does this mean that the "thing-in-itself" does not exist, or that its existence is impossible? Or that, if it exists or its existence is intrinsically possible, it is absolutely unintelligible? No; our necessary ignorance of what is beyond our experience does not enable us to affirm or to deny the objective reality of the transcendental world.

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century. Thus it was that Kant took the same problem in hand, when the movement of thought aroused by the Cartesian philosophy resulted, in the person of Wolf, in a dogmatism which appeared to him to be dangerous. And thus once more, the deceptions springing from the downfall of the great idealist systems brought men's minds back to Kantian principles, combining them with the recent discoveries of physiology and psycho-physics."—*Revue néo-scolastique*, April, 1894, p. 108.

The subjective laws, whereby the understanding can only conceive an object in the intuitions of passive impressions furnished by sensation, would not govern a mind capable of creating entirely its own intelligible objects, or of borrowing their elements from some other source than sensation; and therefore it is not impossible for intelligences to exist that are capable of knowing the transcendental sphere, or " things-in-themselves."

Hence the possibility of metaphysics in a negative sense becomes intelligible. Metaphysics, thus understood, does indeed maintain that it is not inconsistent to *think* that noumena or things-in-themselves may be intelligible to a mind independent of the law of sensational intuition, but at the same time it maintains, and herein it reveals the limitations of its scope, that for the *human* mind they are necessarily *unknowable*. They are therefore, to use Kant's expression, " boundary-concepts " (*Grenzbegriffe*)—in other words, they mark the limits beyond which experimental science necessarily cannot pass.

Such was the negative work of the author of the *Critique :* "to prove," as is well said by M. Ravaisson, " the nullity of metaphysics, and to reduce theoretical philosophy to the analysis of the knowing faculties which would show their inability of going beyond the borders of physical knowledge."[1] In fine, the Kantian *Critique* is a theory, deductive in form, of the positivism outlined by Comte and practised by most contemporary psychologists.

We remarked above that the two conclusions of

[1] Ravaisson, *Revue de métaphysique et de morale*, No. 1, January, 1893, p. 6,

the Kantian *Critique* are inconsistent. Indeed, empirical certitude accords but ill with the general principles of the *Critique*. These lead on logically to the negation of *all* objective certitude. "The old metaphysics," says the Preface of the *Critique of Pure Reason*, "used to say that our knowledge must be governed by its subject-matter. But, on this hypothesis, we should try in vain to make any *a priori* judgement with regard to such matters so as to widen the field of science. All our endeavours would be fruitless. To explain the possibility of science, *we must assume*, on the contrary, *that the subject-matter must be governed by our power to know*."

This is a general assumption, and there is nothing in Kant's *Critique* which sets a logical limit to its scope. Hence in the empirical, as well as in the speculative, sphere, we can only know the laws of our own thinking. In both cases the one criterion of truth is the harmony of thought with itself.

The objective reality of phenomena is no more guaranteed to us than that of noumena. Empirical science and metaphysics partake of the same certitude in subjective assent, but also in the same objective incertitude. Nevertheless, all metaphysics is not deemed impossible; provided that it is not assigned an objective import, and that its essentially subjective character is maintained, the human mind may be allowed to essay constructive efforts therein.

Fichte, Schelling, Hegel, and later on Schopenhauer and von Hartmann, devoted themselves *ex professo* to this great work; but, even apart from them and their famous systems, all metaphysical attempts received a subjectivist form.

On the one hand, empiricism or positivism became *phenomenalist;* on the other hand, metaphysical speculations were unable to shake off *subjectivism*, and made it a rule for the non-Ego to be swallowed up in the Ego, and to explain nature by consciousness. Hence arose the *monism* which appears as the common feature of the systems of Spencer, Fouillée, and Wundt, and as the final word in conjecture in every philosophy that tries to go beyond immediate fact.

Jacobi, Fries, and Reinhold[1] made the first efforts to draw *subjectivist* conclusions from the *Critique of Pure Reason*, but it was the special work of Fichte to give them prominence.

The existence of what we ordinarily call a thing, an object, of what dogmatic philosophy calls a *Thing-in-itself* (*Ding-an-sich*), is the work of man's consciousness.

As opposed to representations which are arbitrary, there are some in consciousness, says Fichte, that are accompanied by a *feeling of necessity*. To account for such necessity should be the chief aim of a theory of knowledge. The knowledge which carries along with it the feeling of necessity we call *experience*. We have, then, to discover the foundation of experience.

This question admits of two replies. Experience implies conscious activity with something as its object. Hence the necessity that is inherent in experience may be caused either by its object or by consciousness. The first answer is dogmatic, the second is idealist.

[1] Cf. Windelband, *Geschichte der Philosophie*, 2te Aufl., Freiburg-i-Br., 1899, S. 467 *ff.*

Dogmatism regards consciousness as a product of things, and subordinates mental activity to the mechanical necessity of causality; and therefore it is a theory of materialistic fatalism. *Idealism*, on the other hand, regards things as a product of consciousness, the function of which depends only upon itself; and hence it is a theory of activity proper and of free will.

Morality and analysis of consciousness concur in favour of idealism. Such is the line of thought pursued by Schleiermacher, Schelling, and Hegel,[1] and they made it the starting-point of their philosophic systems, which for at least a quarter of a century, at first in Germany, and afterwards in France, Italy, and the United States, aroused an enthusiasm which it is hard to form any idea of to-day.

This success, which was rather the work of imagination than of reason, led to a reaction in the direction of rough materialism, about 1850. It was the time of the noisy triumphs of Karl Vogt, Moleschott, and Büchner, but this materialism led to a counter-movement which carried men's minds towards an idealist conception of philosophy.

Kant was not slow in regaining public support. Zeller, Liebmann, and Lange, among philosophers, Helmholz among scientists, were revivers of the *Critique*, and thenceforward, in the Universities as well as in the scientific world, the influence of Kant has only gone on increasing, involving what tem-

[1] It is true that Herbart and Schopenhauer, like the founders of idealist pantheism, maintained the reality of the *thing-in-itself*; but they claimed to be faithful to the teaching of Kant, and therefore to the subjectivism of the categories.

porarily appeared to be the final downfall of metaphysics.

Run through the countries which are the chief leaders of thought, Germany, England, the United States, and France; look at the University syllabuses, the periodicals, the various publications: everywhere you will find *metaphysics*, and particularly *rational psychology*, *deserted*, *idealism* predominant, and passing into *subjectivist monism*.

" In Germany, scarcely fifty years ago," wrote M. Lévy-Brühl in 1895, " Hegel's metaphysics were almost universally dominant." To-day, " Hegelians disappear one after another, like those who wear the medals of St. Helena. Schopenhauer still has a few admirers; but pessimism, as a philosophic system, counts scarcely any adherents now in Germany. Still more transitory was the success of von Hartmann, the famous writer of the *Philosophie des Unbewussten*. He still brings out books, but the public no longer reads them. No metaphysical doctrine nowadays secures acceptance, and hardly any makes even a bid for it. Nietzsche was lately the subject of very keen infatuation, but the fashion which exalted him to the skies is already beginning to leave him in the lurch. Besides, he is a brilliant moralist, and not a metaphysician; and the violent paradox in which he rejoices does not furnish the materials for a consistent system. There remains M. Wundt, a man of sound and lucid mind, a good logician, an all-round man of learning, who started with physiology, and ended by daring to launch out into metaphysics. To-day he is indisputably the

most appreciated of German philosophers. But, bold innovator as he is in psychology and morals, M. Wundt becomes almost timid as soon as he touches upon the ultimate questions of metaphysics. Moreover, it is that part of his work that exercises the least influence. The work of his laboratory of physiological psychology awakens more interest, and holds our attention more firmly than his theory of consciousness or conception of the universe.

"In fine, if it be true that public indifference discourages metaphysical speculation, there is, indeed, no startling novelty to shake us out of our indifference. The latter does not extend to all philosophical investigation, whatever it may be; the success of most of M. Wundt's books is enough to prove that. And besides his works, many others of considerable importance are appearing in Germany, dealing with logic, morals, and sociology.

"It is metaphysics that is especially neglected. There are few new books on the subject, and the vogue they have is but slight, one may say practically nil. Not long ago, a young *Privatdocent* of Berlin was asked: 'What philosophical school do you belong to?' 'To my own,' he replied with a smile. Indeed, he would have been sore put to it to give any other answer than this quip, unless he had taken refuge behind some great historic name.

"Moreover, if any kind of metaphysical teaching was to-day exercising an observable influence upon men's minds, should we not find some echo of it in our Universities? Look at the prospectuses of a few of them, and see how small a place is to-day assigned to metaphysics. In the University of

Königsberg forty-five professors have given notice of courses of lectures in the School of Philosophy. This school comprises what is taught in France in the schools of Literature and Science. Of the forty-five professors only three deal with subjects covered by philosophy, and *not one* with metaphysics proper. In the University of Munich, the Philosophy school is subdivided into two sections—the section of the mathematical, physical, and natural sciences, and the section of the moral and social sciences. The latter reckons thirty-six professors, among whom five in the winter term of 1894-1895 had to deal with really philosophical subject-matters, especially with logic and psychology; two of them were also to lecture on metaphysics. Lastly, the Philosophy School of Berlin numbers no less than a hundred and sixty professors. Sixteen of them give notice of courses dealing with different parts of philosophy, especially with psychology, logic, social sciences and the history of various doctrines: *only one* has anything to do with a subject that properly belongs to metaphysics (the proofs for the existence of God); another will investigate modern positivism. And this is all. The figures speak for themselves, and the inference is self-evident. There is no original metaphysical speculation: the interest of disciple and master alike is entirely devoted to other subjects."[1]

During the summer term of 1897, the syllabuses of the twenty-one German Universities, seminaries and diocesan institutions excepted, include only *four courses* in general metaphysics. If these

[1] Lévy-Brühl, *Revue des deux mondes*, 1895.

figures, which are really absurd, are to be compared with those of other courses of teaching, the following facts will suffice: Introduction to Philosophy, Fundamental Questions, Propaideutics: thirty-three courses; Logic, Criteriology, Pædagogy: thirty-three courses; Psychology: forty-one courses; Special Subjects, excluding those of Metaphysics: forty-one courses; General History of Philosophy, and Special Histories of various Philosophical Schools: seventy-six courses.[1]

Kant's two *Critiques*, and some of his other writings, are the favourite philosophical subject in the German Universities. The Berlin Academy is publishing a new edition of Kant's works, and the enterprise is being strongly supported. Since 1896 a new review has been running, called *Kantstudien*,[2] which undertakes to study, both from the doctrinal and the historical point of view, the work of the Königsberg philosopher, and to gather together all the traces of his influence throughout the world.

The idealist movement has lately given rise in Germany to the formation of a group of writers who give their common programme the name of the *Philosophy of Immanence*. Amongst them may be cited the names of Schuppe, von Schubert-Soldern, Kauffmann, and, from some points of view, Rehmke. This group has long had an organ of its own, entitled *Zeitschrift für immanente Philosophie*, and founded in 1895 by Kauffmann.

[1] As to the disfavour into which metaphysics has fallen in Germany, see Busse, *Die Bedeutung der Metaphysik für die Philosophie und die Theologie* (*Zeitschrift f. Philosophie u. philos. Kritik*, November, 1897, S. 26).

[2] Founded by Vaihinger, now edited by Bauch.

The object of the Philosophy of Immanence is to describe reality, excluding any idea of a hypothetical complement, and any metaphysical assumption. Its essential characteristic is the negation of everything that may be regarded as transcendent. *It recognizes nothing outside of consciousness.* Conscious being and real being are identical.[1]

Not only this, but Kauffmann considers that " opposition of subject and object is not to be found in reality, but it is merely a hypothetical complement."[2] Such a theory is admitted to lead on logically to solipsism, but the consequence is denied in practice.

The sharp conflict between spontaneous realism and the subjectivism of the philosophic schools led Richard Avenarius, a professor of the University of Zurich, to make a fresh attempt, the object of which is to break away from the schools, and to overcome empiricism and criticism with the help of what he calls *empirio-criticism.* His principal work is the *Kritik der reinen Erfahrung.*[3] Its dominant idea is that man's mind should rise above all systems that affirm or deny, either the real or the ideal, either

[1] " The idea of the knowable comprises only facts of consciousness, and the latter are identified with facts of empirical reality."—Kauffmann, *Immanente Philosophie,* Leipzig, 1893, S. iii. See Wundt's critical exposition of Immanent Philosophy, *Ueber naiven und kritischen Realismus* (*Philosophische Studien,* 1896, S. 318-408). See also Schubert-Soldern's reply to Wundt (*Ibid.,* 1897, 13 Bd., S. 305-318).

[2] *Immanente Philosophie,* S. 38.

[3] *Kritik der reinen Erfahrung,* 2 vols., Leipzig, 1888 and 1890. A new and fuller edition appeared in 1907. The writer died in 1896 at Zurich. Several young scholars, among whom were Carstanjen and Willy, made themselves experts in empirio-criticism, and maintained their master's

matter or mind, either the relative or the absolute; for all systems do injury to the primary general fact which everyone recognizes. And what is this fact ?

The first *axiom of empirio-criticism* will tell us. Avenarius formulates it thus: " Every human being assumes that he is in an environment (*Umgebung*) made up of various parts, and also assumes that other human beings are possessed of various modes of expression,[1] and lastly, that there is some kind of interdependence between the mode of expression and the environment. The basis of all the philosophical conceptions of the universe, whether they be critical or not, is never anything more than a modification of this primary assumption."[2]

The philosopher's fundamental rule is to start with this fact, not for the sake of making speculative or dogmatic additions thereto, but in order to *describe* and *analyze* it. This is all that Avenarius claims to do.

And since he never makes any separation between the essential terms of this assumption—*i.e.*, the

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teaching. Carstanjen published a life of Avenarius and an epitome of his philosophy in the *Vierteljahrsschrift für wissenschaftliche Philosophie*, 1896, S. 361-391.

On Empirio-criticism, see M. Delacroix (*Revue de métaphysique et de morale*, 1897, 1898), and particularly M. F. Van Cauwelaert (*Revue néo-scolastique*, 1906, 1907).

[1] By " modes of expression " (*Aussagen*) must be understood all manner of expressions whatsoever, *e.g.*, word, gesture, movement, for instance, such as laughter; in fine, all that reproduces a perception, a thought, a memory, etc.

[2] *Kritik der reinen Erfahrung*, I., Vorwort, vii. To this primary axiom, which concerns the *content* of knowledge, the author adds a second relative to its form. It comes to this: he says that scientific knowledge uses fundamentally the same procedure as ordinary knowledge.

environment and the individual or Ego—because any complete description must include them both as the connected parts of an indivisible totality, empirio-criticism is monist, or rather, the problems of dualism and monism are meaningless so far as it is concerned.[1]

In *England*, it is long since the famous philologist, Max Müller, introduced the ruling ideas of his fatherland into the country of his adoption. The philosophy of his book, *The Science of Thought*, is Kant's, and it is due to him that Noiré,[2] Kant's

[1] The problem of the Kritik should be that of determining, in a logical sense and in a hypothetical manner, the relations between the individual and his environment.

This relationship is twofold. The environment acts, on the one hand, upon the individual by the stimuli to which he responds, and on the other hand, it is the condition upon which the individual exists and is preserved, affording him sustenance and protection.

Avenarius uses the expression *R* (for *Reiz*, or *stimulus*) as an equivalent of anything of descriptive value belonging to the environment, and the expression *E* (for *Empfindung*, or *sensation*) the "psychic" equivalent of anything of descriptive value belonging to the content of personal expression.

"Psychic" values depend upon the *R* values, indirectly by means of the central nervous system called *system C*. First, to determine the changes in system *C* effected by the environment, next, to describe and classify the psychic values, according to the oscillations of system *C*—such is the task undertaken by the author of the *Kritik der reinen Erfahrung*.

"Thus he succeeded," says one of his followers, "in regarding the two worlds of being and thought from a unitive and consequent point of view, as *E* values depending upon the determinate changes of system *C*."—Carstanjen, *Vierteljahrsschrift für wissenschaftliche Philosophie*, 1896, S. 381.

[2] Ludwig Noiré, *Die Lehre Kant's und der Ursprung der Vernunft*, Mainz, 1882; *Die Entwickelung der abendländischen Philosophie*, Mainz, 1883.

intelligent and devoted commentator, became known in England. Max Müller celebrated the centenary of the first edition of the *Kritik der reinen Vernunft* by publishing a translation of it in English.

The prestige of Darwin and Herbert Spencer long exercised its fascination over men's minds, and bound them down to the problem of evolution. A Pleiad of distinguished scientists—Huxley, Tyndall, and Romanes; men who were psychological observers rather than metaphysicians, the successors of David Hume and Hartley, particularly the two Mills and Alexander Bain—seconded the empirical tendency of philosophical thought; but the influence of Kant, though late in coming, is none the less powerful at the present time. Mr. Balfour, a first-class observer, remarks that " Transcendental Idealism " is only represented in England by a small minority, but that this minority is an élite of specialists, and its importance must not be underrated.[1]

The development of Kantian idealism in England has had its usual logical consequences. Mr. T. H. Green was regarded as the leader of this movement of thought, and Hegelianism has won a place in the Universities of Glasgow and Oxford. Caird, who followed Jowett at Oxford, and Bradley of Merton College, carried on the Hegelian tradition.[2]

[1] Balfour, *The Foundations of Belief*, pp. 6, 138 *ff.*

[2] Bradley's *Appearance and Reality*, which made its mark in England, ends thus: " There is a great and too well-known saying of Hegel's, which I do not accept without reserve. But I will end with a proposition not unlike it, and which perhaps more accurately expresses the essential method of Hegel's philosophy. Apart from mind, there is not, and there cannot be, any reality; and, so far as a thing is mental, so far is it truly real."

In the *United States*, during the first half of the nineteenth century Scotch realism exercised considerable influence; later on, they became enthusiastic about evolution, Herbert Spencer's even more than Darwin's. Thus, owing to the " transfigured " realism of the English evolutionist, men's minds began to ferment with the leaven of idealism, and now for over twenty-five years the youth of America has been importing frankly idealist theories from the German Universities, theories rather Hegelian than Kantian; and to-day they may be said to be the predominant doctrines in the University teaching of the United States.[1]

In *France*, at the first quarter of the nineteenth century, Victor Cousin, and later Vacherot, Secrétan, and Ravaisson, were influenced in varying degrees by German idealism. Kant's action chiefly began to make itself felt with Charles Renouvier.[2] His *Essais de critique générale*, published between 1854 and 1864, exercised an obscure but continuous influence upon French thought; MM. Pillon, Dauriac, H. Michel, Prat, and Brochard, were directly connected with him, and the last-named calls M. Renouvier " the man who may be justly regarded to-day as the most important representative

[1] Cf. Royce, *Systematic Philosophy in America in the Years* 1893-1895 (*Archiv für system. Philosophie*, 1897, S. 248). Cf. Mattoon Monroe Curtis, *An Outline of Philosophy in America* (*Western Reserve University Bulletin*, March, 1896).

[2] On this head of a school, who died in September, 1903, see *Le néo-criticisme de Charles Renouvier*, by E. Janssens (Louvain, 1904), and *La philosophie de Charles Renouvier*, by G. Séailles (Paris, 1905).

of French philosophy." A few years later, M. Lachelier introduced Kant's *Critique* into University teaching; and one of the most popular men with young Frenchmen, M. Boutroux, the follower of Lachelier, continued to uphold the critical tendency of his master.

In 1872 M. Renouvier founded the *Critique philosophique*. It disappeared in 1889. M. Pillon next year started an annual Review written in the same spirit, entitled *L'Année philosophique*. This does not show that writers and professors in France had adopted the Critical system *en bloc*, but only that Kant's thought had penetrated into intellectual circles. Along with him, Hegel and Berkeley were studied more than any others, so that one may say that the general tendency of philosophy in France to-day runs in the direction of idealism or subjectivism.

The courses of lectures show the same unpopularity of metaphysics, and philosophic thought is becoming even more scattered, if possible, than in Germany, in questions of detail. For the educational year 1897-1898, you will fail to discover on the programmes,[1] either of the Collège de France, or of the Universities of Paris, Aix, Algiers, Besançon, Bordeaux, Caen, Clermont-Ferrand, Dijon, Grenoble, Lille, Lyon, Montpellier, Nancy, Poitiers, Rennes, and Toulouse, *a single course on General Metaphysics*. There were all sorts of lectures, on ancient or modern Philosophy, Æsthetics, the general conditions of consciousness, creative imagination,

[1] See the *Revue de métaphysique et de morale*, Supplement, September-November, 1897.

democracy in France, social science, etc. M. Séailles at the University of Paris gave notice of lectures on " The Law of Synthesis in Mental Life," and M. Hamelin of Bordeaux on " The Principal Elements of Representation, and their Association." M. Bernès of Montpellier took as his subject " The Notion of Justice, and some of the Phases of its Evolution." But not one of them all possesses that sort of " justice " which leads one to look for the true " Law of Synthesis in Mental Life " which is to be discovered with the help of psychology, when based upon sound metaphysics !

Nevertheless, the *Revue de Metaphysique et de Morale*, founded in 1893, deserves special mention as an indication of a new orientation of thought in France. It marks a reaction against the exclusive cult of fact, and therefore one cannot but applaud the efforts of such young men in their ambition " to be of service to reason for the sake of the highest good, and for the honour of their country." " They have been seized with the desire," they tell us, " to put philosophic thought in France in a position to reveal itself openly, hoping it will thus be seen to be second to none in vigour."[1]

But it must not be supposed that the *metaphysics* of the new Review is the same as that of the old *ontology* or former philosophy which, going beyond the physical properties of the sensible world, and beyond geometrical or arithmetical quantities, investigates *being* as such, with its attributes and relations.

The programme-article might leave one in doubt

[1] *Article-programme*, January, 1893, p. 5.

as to the matter. "Here," it says, "we wish to throw into relief the doctrines of philosophy properly so-called. We would recall public attention to the general theories of thought and of action, which it has abandoned for some time, and which have nevertheless always been, under the now decried name of metaphysics, the only source of rational beliefs."[1] But the articles which have appeared since 1893 by MM. Rauh, Remacle, Louis Weber, Halévy, Brunschwicg, and Bergson, prove that they do not regard metaphysics as much more than the psychological analysis of thought.

The most original writer of this group is M. Bergson. M. Fonsgrive says of his work *Matière et mémoire* that, since the time of Maine de Biran, nothing showing such progress in philosophy has appeared in France.[2]

M. Bergson has epitomized his psychology in two books, *Essai sur les données immédiates de la conscience,* and *Matière et mémoire.*[3]

Driven by the necessities of individual and social life, we are naturally led to represent to ourselves the data of consciousness as definite things, as quantitative, juxtaposed, and simultaneous ele-

[1] *Article-programme,* p. 2.

[2] *Spiritualisme et matérialisme* (*La Quinzaine,* 1 fevrier, 1897).

[3] Paris, Alcan, 1889 and 1896. He also wrote *Le rire* (1900), *L'évolution créatrice* (1907), and important articles in the *Revue philosophique* (1898, 1902, 1906), and in the *Revue de métaphysique et de morale* (1903, 1904). Cf. G. Dwelshauwers, *Etude sur la philosophie de M. Bergson* (*La Belgique artistique et littéraire,* 1906). M. Bergson appears more and more as the inspirer of "the new philosophy" or "new positivism," particularly as explained by MM. Wilbois and Le Roy. See M. L. Noël, *Bulletin d'épistémologie* (*Revue néo-scolastique,* 1907, pp. 220 *ff.*).

ments. This way of representing things to ourselves " in the language of space," as the *Essai sur les données de la conscience* tells us, is inspired by our utilitarian needs. The artifice used by scientific method consists in getting rid of the conventional part of our ordinary knowledge, and in coming into contact with the real as it is.[1] But, what is this real of which we are conscious? It is made up of qualitative occurrences which follow one another in time.

The first book allowed the opposition between the " utilitarian or artificial " Ego and the " fundamental " " true " Ego to remain. The second got rid of this dualism. Opposition between the two principles, body and soul, matter and mind, does not exist, says this author, in the real content of consciousness, it is at the outset an artificial creation of the understanding. " It may be resolved into the threefold opposition between non-extension and extension, quality and quantity, free will and necessity."[2] But, between non-extension and extension there is an intermediate term, which is the real strictly so called—*i.e., extensiveness, the extensive character of sensation.* In the same way, between quality and quantity there is a transition—*i.e., tension.* Lastly, the opposition between free will

[1] " In fine, the artifice of method consists simply in distinguishing the view-point of ordinary or useful knowledge from that of true knowledge. The duration, *in which we see ourselves act*, and where it is good for us so to see ourselves, is a duration whereof the elements can be dissociated or associated together; but the *duration in which we act* is a duration wherein our states become merged in one another."—*Matière et mémoire*, p. 205.

[2] *Matière et mémoire*, pp. 273-278.

and necessity is analogously resolved " by a greater and greater latitude being allowed to movement in space and by the increasing tension which accompanies consciousness in time."

Although, however, M. Bergson has set himself to free consciousness from the conventional to help it to an intuition of pure reality, he has not succeeded in emancipating himself from idealism. According to him, reality is only a whole made up of images.[1]

Other writers in this French Review, particularly M. Remacle and M. Louis Weber, made it their business to push idealism to an extreme. Idealism cannot stop, says M. Remacle, at denying the knowableness of the realities of the *external* world. Logic compels us to admit that even the *inward* noumenon, the substantial Ego, even our states of consciousness, as soon as they are over, are necessarily unknowable. Generally speaking, it is not their office to inform us of the existence or nature of anything that differs from themselves.

These passages must be quoted. They enable us to judge how destructive the idealist principle can be.

" To speak of knowing a state of consciousness," writes M. Remacle, " is to make use of a contradictory expression; for knowing it, clearly does not mean knowing it *as it is*, or rather, as it was, for it is no longer itself when the mind notes, as we say, that it is in or before the mind. . . . There are, then, two forms of idealism, which are indispensable: the

[1] " I call *matter*," he writes, " the whole composed of images, and *perception of matter* these same images referred to the possible action of a certain determinate image, *i.e.*, my body."—*Ibid.*, p. 7.

idealism which may be called *external* as applying to the external world, and the idealism which we shall call *inward* as applying to the inward world. The second is the underlying reason for the first. . . ."

" The science man used to boast so much of is only a chimera, which he has made out of his own substance from the time when, in the pride of man's thought, along with the notion of the Ego, there appeared the possibility, and then the necessity, of reflection."[1]

" Not only is it not possible for us to know an objective non-Ego, but also we cannot know with a reflective knowledge our own states of consciousness, for we are a mode of duration, and spontaneous consciousness alone can furnish us with any real knowledge."[2]

If we cannot know either an objective non-Ego or a past state of consciousness, *what becomes of reflection?* It is but the desire of our own future conscious existence. The act of reflection ends by creating a new state of consciousness; it begets a prolongation of our existence towards the future.

Psychology only pursues this realization of ourselves systematically. Hence it is not a science but an *art*—the art of realizing the soul according to a certain ideal which must be duration. " Hence normal psychology may be thus defined: it is an expansion of ourselves in duration, produced in accordance with duration."

[1] Remacle, *Revue de métaphysique et de morale*, 1893, pp. 254 and 265.

[2] *Recherche d'une méthode en psychologie* (*Revue de métaphysique et de morale*, 1896, p. 149).

Since our duration is a qualitative existence and an incessant becoming, the art of psychology must observe two rules. The first is, *not to bring into play any objective element—i.e.*, any notion borrowed from space—for the homogeneous characteristics of space are diametrically opposed to those of duration; the second is, *never to affirm oneself definitively*, but always to break up all certitude, for consciousness must always tend towards real doubt, since psychological construction can never be any more than a becoming, like the soul which practises it.

In the antithesis between subject and object, therefore, we should take part neither in favour of the one nor of the other, nor against both. The mind should observe a critical attitude for itself, and also with regard to any *fact*, even if it belong to our own psychological past. Thus, the soul will not give itself away to any *fact*.[1]

M. Louis Weber, in his turn, accuses the idealists of inconsistency. He says that they regard metaphysics as a theory of knowledge; but, to them, knowledge is a thing in itself, which they claim to make into a science; hence they fall into that very realism which they desire to avoid.

The categories of the understanding, the forms of sensible intuition, and states of consciousness, are put forward by Kant, Renouvier, and Spencer, as determinate things, as "objects"; the *idea* of an object and the *object* itself are opposed to one another as two heterogeneous terms, the first having

[1] *Recherche d'une méthode en psychologie* (*Revue de métaphysique et de morale*, 1897, pp. 320-341).

a logical existence only, the second being assumed to have a real existence; between the two heterogeneous terms, the idea and its object, knowing and known, a fixed relation is assumed to exist, and current idealism endeavours to determine this relation.

But all these conceptions are realistic. There is no existence but "logical existence; and existence includes nothing but the idea of existence."

"It is ordinarily held that a thing's existence . . . does not depend upon the affirmation of it, which makes it participate in the immediate being of its utterance.

"In fact, we live in an innate and ineradicable belief in things, the external world and ourselves, and we cannot help crediting all things with an existence which is distinct from and independent of our ideas of it.

"Thus all ideas seem to have corresponding objects which are not ideas; or, at any rate, when an idea is an idea of what is real, its object, the reality itself, must have an existence apart from its logical existence.

"The history of philosophy is to some extent mixed up with the history of the pursuit of this objective reality. All the resources of dialectics, and all the penetrative powers of psychology have been directed towards this end, and at each step forward the ultimate object of knowledge has ever receded still farther out of reach in the dim distance. The history of philosophy is the history of the vicissitudes of our incurable realism. For the materialistic

object, extended and divisible, there has been substituted the psychical object, sensation or image, appetition or volition, and then for this an object purely intellectual, categories of the understanding, and forms of intuition, and then the strictly rational object, the universal idea and the conscious thought of oneself. Phenomenalism itself has not escaped from realism, for while regarding the realism that preceded it as an inevitable consequence of our mental structure and an inseparable element of the representational link, binding together the representation and what it represents, it laid down the categories as a higher reality than the reality made known through them, and gave a supreme existence to the conditions whereby existence is thought of. Whether the idea chosen as the stopping-point was that of the world, that of an image of the world, or that of the idea of such an image of the world, in any case they fell back into the delusions of naïf realism, for they always believed in the existence of an object for all these ideas, and always fancied they apprehended an ultimate reality existing in and of itself, an *extra-logical* existence—*i.e.*, external to the judgments wherein it was affirmed as the logical subject of the verb to be."[1]

"In vain do you reply that ideas correspond with objects, and that existence should be attributed to these objects as such, and not to our ideas of them. What is the *object* of an idea, so far as the latter is presented to reflection? In its turn, it is merely an idea whereof the first is the idea raised to a higher

[1] L. Weber, *L'idealisme logique* (*Revue de métaphysique et de morale*, November, 1897, p. 684).

degree of reflection and advanced to the rank of an idea. Reflection moves in the bosom of being, and its objects are but forms of being, or else, as being, it contemplates itself when it affirms itself. No doubt we live, we perceive, and we suffer, but how do we form judgments about all this, except by the ideas we have about living, perceiving, and suffering? It matters little whether the occurrence whereof we affirm the existence be fictitious or real; fiction and reality, in the core of being, have only a relative significance. The question is, to find out whether the affirmation about living, perceiving, and suffering, is not a logical affirmation, a reflection of discursive thought, just in the same way as the affirmation of anything else. The question is, to find out whether the existence of the objects which, by an inevitable illusion of the mind's eye, are placed far beyond the sphere of the affirmation which gives them a place in speech, is not merely the logical existence which belongs to every affirmation, whether true or false.

"But to have a glimpse of this question is already to have given it an implicit reply. If existence is not *logically* distinguishable from being, neither is it distinguishable *really*, for reality, the sign of which we are in search of apart from being, is entirely contained therein, by the very fact that we claim to oppose the one to the other, as outside is opposed to inside. The *other thing* than an idea is itself only an idea.

"Thus, in fine, do all the varied efforts of Kantian and post-Kantian Criticism, of positivism and agnosticism, resemble one another. All of them

pretend to attain to extra-logical existence, outside of being, which is as self-contradictory as to hope to get beyond the terrestrial atmosphere in a balloon.

" Not only matter and extension, but also appetition and volition, and even our so-called inner and deep consciousness of the fluidity and inapprehensibleness of our states of consciousness, are confused concepts, revealing our belief in an existence which should sustain logical existence as the inner fire of the earth sustains the surface whereon we move."[1]

We have now reached the final term of anti-realist negation. Descartes laid down this principle: the only indubitably certain thing is this, the

[1] L. Weber (*Revue de métaphysique et de morale*, pp. 694, 698, 699). M. Weber speaks of logical *existence* in his criticism of realism. It would be more accurate to speak of logical *being*. Being is *real* or *logical*. Real being is that which exists, or may exist, independently of the thought which represents it. *Unreal, logical, purely mental* being is that which has no other entity than that given to it by representation. The notion of the latter is negative, and hence presupposes essentially the notion of reality. What sort of belief could be given to any *logical, unreal* being, if it did not presuppose a real being whereof it is the negation ?

M. Weber asks if " the affirmation of living, perceiving, suffering, is not a logical affirmation."

Apparently, such affirmation is an affirmation. But that is not the question. The question is, to ascertain whether the affirmation of living, perceiving, suffering, is the affirmation of an affirmation, and no more; or whether it is the affirmation of *something* that may be called living, perceiving, suffering.

Further, the question is to ascertain whether the affirmation about living, perceiving, feeling, is a purely mental entity, or whether it is the striking expression of a mind that lives, and feels itself alive, the act of *someone* who puts life, perception, feeling, into the region of logic.

A balloon cannot get above the confines of the atmosphere of our earth, you reply. But if there be confines, these must possess a hither and a farther side. The farther side is all fiction, if you will, but what of the hither side ?

testimony of consciousness as to the reality of thought and of the thinking Ego. Locke, Berkeley, and Hume, one after the other, dispute the validity of our cognitions of external things. Hume goes so far as to deny the substantiality of the soul.

Up to this point, empirical certitude nevertheless remains protected from scepticism. Kant himself, somewhat illogically it is true, sets over against phenomenal representations the data of experience, and makes intuition presuppose impressions, and the form of thought a content, a subject-matter.

But if the fact that the subject participates in the representation of an object suffices to invalidate the significance of what is represented, it is clear that the axe of the idealist must sooner or later strike down consciousness and cut at the roots of all certitude, even that which is inward. Inward idealism, as M. Remacle justly observes, is the underlying reason of outward idealism.

It is said that idealism thus understood leads on to *solipsism*. But this does not go far enough. *Solipsism* gets rid of all outside of the thinking subject, it is true, but it nevertheless affirms that there is a conscious subject, the person who judges, reasons, and mentally translates idealism into a formula. *Solus, ipse.* But solipsism is logical so far as it admits of no other individual than myself—

Therefore there is a world which is not mere fiction. The human race calls it things, reality.

But perhaps M. Weber only wants to make out that a balloon ascent is nothing more than a fictional aeronaut going up in a fictional balloon through an imaginary space to imaginary limits which separate an imaginary atmosphere from other imaginary things ? . . .

solus—but it forgets its own premises in admitting that self, *ipse*, a subject ever identical with itself amidst all its judgments, reasonings, resulting in the statement of idealism; and when out of the *phenomenal* self given in representation, it creates a permanent self, *myself*, *ipse*, or a *substantial Ego*.

Antirealism carries negation still farther. It attacks the reality of the subject and of the representative *act* itself.

Mental life runs on like a river, through duration. The witness seated on the bank looks straight in front of himself. He sees the passing stream, but when he afterwards tries to recover it, the stream has passed on. "Reflection cannot take hold of past acts."[1]

What then remains for consciousness? Nothing but logical affirmation. The only attainable being, infers M. Weber, is logical being, rational being.[2]

Need we say that idealism thus understood is too manifestly self-contradictory not to betray some error in its original conception? We shall try to make this clear when we submit to criticism

[1] How is it that M. Remacle fails to see that if this were the case, consciousness would have no sense of *duration?* To feel that one *endures*, is to find oneself the same at two different moments. Imagine a moving series of mathematical points endowed with consciousness, then each one will be aware of its place at a given moment. Granted; but if it does not know what was its position a moment ago, it will not be aware that its place is altered, nor will it perceive any *succession of positions* in the case of one point; hence there will be neither movement, nor duration.

[2] In our *Critériologie générale* (5th ed., pp. 402 *ff.*) we reply to M. Weber's criticisms in answer to ourselves (*Mercure de France*, December, 1898) as to the difficulty raised in the text.

the general principle in the name of which idealism claims to invalidate *all* certitude. We shall here confine ourselves to showing, that idealism as followed by the writers of the *Revue de metaphysique et de morale,* regards the problem of knowledge from a too restricted point of view—*i.e.,* from an entirely *negative* standpoint. But no theory of knowledge can entrench itself in antirealism, it has a *positive* function to fulfil.

It is a primary law of philosophy to regard the elementary facts of consciousness in their integrity, and to make a synthesis which overlooks none of the data. But amongst the primary data there is this indisputable fact: that some of our representations, unlike others, are accompanied by the sense of an impression experienced by us, whereof we feel that we are not the originators. Fichte called this the *sense of necessity,* and remarked that we give the name of *experience* to the representations accompanied by this feeling. Herbert Spencer signalized the same fact by opposing to "weak states of consciousness"—*i.e.,* to representations of the imagination the succession of which may depend upon ourselves—"strong states" which govern the Ego and impose upon it the law of their connection.

Deussen, a German professor of Kiel, energetically emphasizes this inevitable resistance of the consciousness to the systematic conclusions of idealism. "From the idealist point of view," he writes, "the world is a representation. I can only apprehend the whole of the material universe of space and time by means of the intelligence, but by its very nature my intelligence can only furnish me with

representations; hence the whole universe, including my body, so far as my intelligence regards it in space and time, is nothing more than my own representation." "But," he adds, "the strength of this idealist inference is the measure of the resistance which we cannot help opposing thereto. This resistance is fortified by reflection. To increase the sense of it in ourselves, it is enough to think that, if idealism is really true, the sharpest pains, the cruellest wounds in our own bodies, would be, so far as the intelligence is concerned, representations just as much as the pains or wounds that affect other people."[1]

Any kind of philosophy, whether idealist or realist, is bound to reckon with this feeling of passivity which is irresistably affirmed in consciousness. Over against this feeling, there is the object that makes itself felt; over against representations which we call *experience*, there is that which is experienced, called by us *reality*. To fail to recognize these primary facts, is arbitrarily to get rid of one of the essential elements of the critical problem of knowledge.

Reality itself—and idealists admit this [2]—does not appear to be homogeneous. Material motion and consciousness, "the physical and the mental," "body and mind" are evidently opposed to one another.

Hence there immediately arises this alternative. Must the two series be allowed to subsist, and must

[1] Deussen, *Die Elemente der Metaphysik*, S. 21, 22, Leipzig, Brockhaus, 1890.

[2] Cf. Höffding, *Outlines of Psychology*, Lowndes's translation, p. 62 (Macmillan, 1891).

they be referred to distinct, independent substances, solely endowed with reciprocity of action upon one another? Or must they be reduced to unity, and to what unity? Must we say, with *materialistic* monism, that matter at a certain stage of its development begets consciousness, and alone accounts for intellectual life? Or, on the contrary, must we say, with *spiritualist* monism, that the immaterial begets the material, and the mental is the element which constitutes the physical? Or, lastly, if neither of these empirical conceptions of monism is intelligible, must we take refuge in the hypothesis of a single metaphysical entity, whereof the irreducible phenomena of movement and of consciousness are apparent modes?

All these hypotheses have their supporters. Just now, *materialistic monism*, regarded as an *immediate* explanation of inward phenomena, is in much disfavour. This is shown by quotations already given. *Spiritualist monism*, regarded from the same point of view, scarcely finds an echo. No one understands how material phenomena can be interpreted in terms of consciousness.

But, just as the material phenomenon cannot be conceived at any moment of the evolution of matter as identifiable with a mental act, nor the latter as identifiable with a material process, so one cannot conceive any *real* action of the one upon the other. Assume, for instance, that a movement can be converted into heat, and heat into a chemical process of brain-matter: can it then be said that this nervous process is converted into an equivalent of conscious thought?

The scientist who observes the course of natural phenomena from the outside has no right to maintain a transformation of this kind, for conscious thought escapes his methods of observation. Besides, there is no common measure between a conscious thought and the physico-chemical processes that precede it. Is there then a hiatus in the continuity of nature ?

No scientist will admit it. The nervous process which stimulates thought is converted into another equivalent material process, and, thanks to this law of continuity, the constant persistence of energy is maintained. As for the psychical process, there is nothing to be said about it, except that it proceeds *pari passu* with the material process, but without any sort of causal link; it is *parallel* to the physical process, and experience can provide no further testimony.

" The physical processes are never the result of psychic processes," says Paulsen; " and inversely, the psychic processes are never the result of physical processes."[1] Or, according to Ziehen, the two series are not *subordinate* to one another, they are *co-ordinate*.[2]

Thus is summed up that conception of nature, and more especially of human nature, which is called the *theory of parallelism*. And it is towards this that psychology is generally tending to-day.

According to slightly graded interpretations of this hypothesis, one may suppose, with Wundt for

[1] Paulsen, *Einleitung in die Philosophie*, 4 Aufl., Berlin, 1896, S. 88-91.

[2] Ziehen, *Leitfaden der physiologischen Psychologie*, 6 Aufl., Jena, 1902, S. 256.

instance, that all the particles of organized matter have a concomitant psychic parallel, or go further still and maintain with Durand de Gros that all matter, even inorganic matter, is endowed with life to a certain extent (polyzoism-polypsychism); with Fouillée, that the mental everywhere underlies the physical; or, with Paulsen, that there is nothing in the world that is not animate and conscious (*Allbeseelung*). But it is plain that this unlimited extension of the theory is capricious. Experience, observes Ziehen, does not reveal to us an appearance of two series of processes, the one physical, the other psychic, except in the very circumscribed region of the cortical matter of the brain.

And here, and here only, we touch the vital spot of the problem of parallelism.

Many who had given up the idea of *subordinating* cerebral functions to spiritual (mental) force (spiritualism), or psychic functions to cerebral activity (materialism), tried to reduce the two *co-ordinate* series of phenomena to unity, by having recourse to the metaphysical hypothesis of Spinoza, or to some other akin to it. They imagine a *single* absolute substance, God or the world, and endow it with two attributes, thought and extension, *extensio* and *cogitatio*, or they suppose the smallest material molecules as in possession of both extension and psychic qualities, such as memory. But, as Ziehen justly remarks, "These theories only provide us with a formal logical unity, in order to bind together two disunited series. They are unproved conjectures which afford no outlet for connecting the two series."

With the help of a more or less skilful sophistry, adds Ziehen, an attempt has been made to conceal the contrast between the two series. Some say the two series are rooted in the Absolute, wherein they are identical; and the Absolute, becoming twofold, gives rise to the differentiation of the two co-ordinate series. Others enjoy the verbal satisfaction of saying that the corporal and spiritual (mental) are the same reality regarded from two different points of view: by observation, from without; or by introspection, from within.[1]

In fact, concludes Ziehen, we must come back to the undeniable distinction of the two co-ordinate

[1] This "hypothesis of identity" is to-day accepted by many psychologists. "We are obliged," says Höffding, "to think of the reciprocal actions of the elements which compose the brain and the nervous system as the outward form of the inner ideal unity of consciousness."—*Outlines of Psychology*, p. 65.

Ebbinghaus writes in the same sense: "Material things and the soul are in part as it were two tissues woven out of one stuff. . . . The same processes which, seen from outside, are material and nervous, are intuitions, thoughts, and desires, when seen from within."—*Grundzüge der Psychologie*, S. 46.

Historically, this hypothesis dates from Fechner. "Between body and soul, matter and mind, there is only the difference of the point of view. The two may be compared with the outside and the inside of a circle. Just as an observer inside the circle cannot see the convex surface, nor can one who is outside see the concave surface, so the observer of nature cannot read within consciousness, nor can consciousness directly see nature. We cannot be on both sides of a thing at the same time. Therefore, in fact, there is only one reality, and its apparent duality arises from our manner of regarding it."—Fechner, *Elemente der Psychophysik*, 2te Aufl., Bd. I., S. 1-7. Taine popularized this illusory interpretation of immaterial phenomena in France. The latter, he tells us, are like the concave side of a lentil, the outward observation of which regards the convex side only.

series, and give up the idea of discovering any real principle of unity in them.

This is a stumbling-block to the theory of evolution! For, in fact, the cerebral processes go on normally according to the needs of the bodily life, independently of consciousness. Therefore, the latter is only a superfluous epiphenomenon, inexplicable by the laws of biological evolution.

But, replies Ziehen, *experimental* psychology need not hamper itself with metaphysical problems. It has the right and the duty to keep to immediate facts. Well, strictly speaking, are the two coordinate series of physical processes and psychic processes alike immediate?

No. Look at a tree. You may think the tree and the sight of it occur to you simultaneously. But really, this is not the case. The visual impression alone is immediate. The objective representation of the tree is an operation that follows upon the initial impression.[1] Hence the psychologist must confine himself to *psychic* processes only.

Therefore, says Ziehen, for us who limit ourselves to a strictly *critical* and *experimental* conception of psychology, the difficulties of the theory of parallelism do not arise.

Furthermore, among modern philosophers we find great repugnance towards the irreducible antagonism which was reached by the two parties, one rationalist the other mechanist, of the Cartesian psychology. And this antagonism is easily explained.

First, there is the natural tendency to unification of man's mind. The many elements between which

[1] Ziehen, *Leitfaden der physiologischen Psychologie*, pp. 256-260.

there is no plain inconsistency necessarily call for some attempt at unification.

Next, there are so many indications of unity between body and soul in man that, far from imposing itself on the consciousness, Descartes' psychological dualism appears to unprejudiced minds inconsistent with consciousness.

Lastly, the following reason, of an historical nature, is not less powerful. Ideas of continuity and of evolution are prevalent to-day in all quarters where scientific and philosophic work is carried on. Among those who are influenced by Hegelian arguments evolution becomes idealist. Among others who are followers of the universal mechanical theory and the biological theories of Spencer or Darwin evolution bears a more or less materialist character. But all think that it must be admitted as a postulate, that differences between beings are not due to an irreducible diversity of nature, but to a gradual accumulation of infinitesimal changes. This dominant influence of the idea of continuity in nature dates from Leibnitz. The brilliant application he made of it in inventing the differential calculus led men to think that monads made an infinite series, each term of which, although having a proper and independent nature of its own, nevertheless differs only insensibly and less and less perceptibly from that which precedes or follows it.[1] Thus interpreted, the old saying, *natura non facit saltum*, contained in germ the theories that explain the origin and differentiation of beings by evolution,

[1] See De Lantsheere, *Revue néo-scolastique*, April, 1894, p. 107.

and their unity as a whole by a unity of nature or of composition.

To sum up: the founders of the systems we have described, such as Herbert Spencer, A. Fouillée, and W. Wundt; philosophers like Deussen, Kauffmann, Avenarius, and Paulsen;[1] psychologists like Fechner, Höffding, Ziehen, Ebbinghaus; all these have a tendency towards *monism*. Their starting-point and their arguments vary according to the *ontological*, *psychological*, or *criteriological* point of view they take up, but the final result is the same in all cases.

Therefore we had good reason for signalizing the *abandonment of metaphysics* in the traditional sense of the word as one of the characteristics of con-

[1] A French writer who began with quite other tendencies, M. Paul Janet, ended his first work, *Principes de métaphysique et de psychologie*, with these words: "As for ourselves, we do not hesitate to admit that the notion of divine personality has been much exaggerated, that divine attributes have been far too much likened to human attributes, that theodicy has been too much drawn from psychology; that, from another standpoint, transcendence has been pressed too far, for, taken literally, it would estrange man from God, and God from man; and without going so far as pantheism, we admit what a German philosopher has called panentheism, *πᾶν ἐν θεῷ*." *Op. cit.* II., p. 615. Paris, Delagrave, 1897.

This German philosopher is Krause, whose main ideas have been introduced into Belgium by Tiberghien.

"The transcendence of the theologians may be reconciled with the immanence of the philosophers. These notions do not exclude, they complete, one another. Their harmony makes *panentheism*. This is methodically realized by Krause's teaching."—Tiberghien, *Introduction à la philosophie*, Bruxelles, 1880, xxxvi, Preface of 2nd ed. Again: "We are right in saying that Krause's teaching . . . marks in the order of providence the arrival of the third age of mankind."—*Essai théorique sur la génération des connaissances humaines*, Bruxelles, Périchon, 1844, p. 695.

temporary psychology, and also the *predominance of idealism and subjectivism*, and lastly, a general tendency towards *monism*.

Contemporary psychology presents a *third* striking characteristic. It is the increasing influence attributed to experience.

The tendency to submit the results of observation to mathematical formulæ ruled the domain of physics for two centuries, and it ended by entering into the sphere of psychology.

Weber was the first to make methodical efforts in this direction. His experiments were directed towards ascertaining the relations between the increase of an external stimulus and the corresponding increase in sensation. The result of these researches was erected into a law bearing Weber's name. Sensations increase in *absolutely* equal quantities, when their stimuli increase in *relatively* equal quantities.

Fechner[1] threw Weber's law into this technical formula: The increase in sensation follows an arithmetical progression, while that of the stimulus follows a geometrical progression; or again, into the form of this other statement: Sensation increases as the logarithm of stimulus. This study of the relations between the stimulus and the differentiation of sensations is strictly called *psychophysics*.

[1] The first edition of the *Elemente der Psychophysik* appeared in 1860. In the first and most considerable portion of the treatise the writer devotes himself to giving the principles, methods and laws of " measurement " in its application to the different kinds of sensations.

Wundt himself is the founder of *psychophysiology*.[1] This new science, of which psychophysics is only a part, embraces the experimental study of conscious phenomena in their relations with physiological and physical facts.

We say *new science*, for the acknowledged ambition of Wundt and his followers is to effect a fresh division of labour for the benefit of their favourite studies. Experimental psychology, to their mind, has its own aims and methods, it constitutes a science which is distinct both from other natural sciences and from philosophy.[2]

Wundt founded the first laboratory of psychophysiology at Leipzig in 1878. Since then, hundreds of workers have followed in their master's footsteps, and many of them have gone in turn to France, Belgium, and above all to the United States, to set up centres of experimental research in psychology.

[1] *Beiträge zur Theorie der Sinneswahrnehmung*, Leipzig, 1862; *Vorlesungen uber Menschen- und Thierseele*, 1. Aufl., 1863; *Grundzüge der physiologischen Psychologie*, 1 Aufl., 1874.

[2] "Experimental psychology," writes M. Binet, "has been definitively organized into a distinct and independent science. At the present time, experimental psychology stands for a whole of scientific researches which are self-sufficing up to a certain point in the same way as botanical and zoological researches. It has shaken itself free from that confused and ill-defined mass of knowledge to which the name of philosophy has been given. It has cut the rope which hitherto bound it to metaphysics.

"Let us be clearly understood as to this important point of teaching. Experimental psychology is independent of metaphysics. It does not presuppose any particular solution of the great problems of life and the soul. Of itself it has no spiritualist, materialist, or monist tendency. It is a natural science, and nothing more."—A. Binet, *Introduction à la psychologie expérimentale*, Paris, Alcan, 1894.

M. Victor Henri, since 1893, has become the historian of this movement. A well documented article which he then published in the *Revue philosophique*[1] describes the four laboratories then existing in Germany, and gives an insight into the work carried on in them. Less than fifteen years after these researches were inaugurated, he was able to mark with satisfaction the very considerable advance made in these undertakings and their extension to an unhoped-for degree.

In the year 1893 there were thirty laboratories in the two hemispheres. Sixteen of these were in America, two in England, one in France, one in Italy, one in Switzerland, one in Denmark, one in Sweden, one in Roumania, one in Holland, one in Belgium, and four in Germany, where the movement took its rise.

Of the four original laboratories, the first was set up in Leipzig by Wundt in 1878. In 1893 it possessed eleven rooms and received an annual subvention of 1,500 marks. The greatest attention was devoted to psychometry, and the first fourteen years already provided forty-five works, which might be regarded, when taken as a whole, as a detailed course of introduction to experimental psychology. Twelve subjects were on the list in 1893, the most important of which was one devoted to the investigation of time-sensations by Meumann. In 1892 a new theory of Lehmann's as to the transition from pleasure to pain attracted the attention of the learned world. At this period the laboratory was

[1] Victor Henri, *Les laboratoires de psychologie expérimentale en Allemagne* (*Revue philosophique*, t. xxxvi., December, 1893, pp. 608-622).

attended by twenty-two pupils taught by Wundt, Külpe, and Meumann.

The second was founded at Göttingen by E. Müller in 1879, and comprised five rooms. It was long the private property of the founder, and when it was made over to the University, it received an annual endowment of 500 marks. The apparatus, largely the acquisition of one of the students, was plentiful, but the students were few. The work done has been issued in two special Reviews, and at that date had only appeared in four sections, by Müller and Schumann.

The third was instituted at Bonn by Martius in 1888, and was then his private property. In every way it resembled that of Leipzig, and, owing to reasons that had nothing to do with science, it attracted very few students, and published its experiments in the *Philosophische Studien*.

The fourth and last was founded in Berlin by Ebbinghaus, and although it was not then completely organized, it already numbered eight students, and gave splendid promise.

Starting from Germany, the movement spread everywhere. There are now laboratories in Moscow, Rome, and Geneva, and France possesses two. In 1888 a laboratory was founded in the School of Higher Studies of Paris, and placed under the control of MM. Beaunis and Binet.[1] A second was set up at Rennes under the control of M. Bourdon.

In America, since 1881, the date of the foundation at the Hopkins University of Baltimore by Stanley

[1] See Binet, *Introduction à la psychologie expérimentale* (Paris, Alcan, 1894), for a description of the Paris laboratory.

Hall, a pupil of Wundt's, of the first laboratory, which did not last more than five years, the position of experimental psychology is still stronger than in Germany. In 1894 a very complete book by Dr. E. B. Delabarre, the president of the laboratory at the Brown University of Providence, gave a clear account of laboratory work. From this treatise and other publications (Scripture, *The New Psychology*), it appears that the *twenty-seven* laboratories then existing in the Colleges and Universities of the United States made use of 123 rooms, provided with apparatus, etc., totalling about £11,000, and endowed with nearly £2,500 per annum.

"Of these twenty-seven laboratories, eight or nine were almost entirely devoted to teaching; from five to eight others also undertook certain special researches; ten or more combined instruction and research in equal proportion." And the sixteen Universities (in the case of which Delabarre explicitly gives the figures) devoted not less, when taken as a whole together, than 187 hours a week to psychology. As for metaphysics, it is almost everywhere left out.

The fact that in 1893 there was set up at the Chicago Exposition a psychological section, in which were two laboratories regularly working under the direction of the most eminent professors of the science in the United States, rightly was noted as "a most significant event." Since then the movement has only grown in a still more remarkable manner.

Japan, and even China, follow the example of the rest of the world. A great laboratory is at work in the University of Tokyo, under the direction of

Professor Motora, and a professorship of experimental psychology has been set up in the University of Pekin.

Wundt,[1] Ziehen,[2] Külpe,[3] Ebbinghaus,[4] and Gutberlet,[5] in Germany; Sergi [6] in Italy; Sully [7] in England; Ladd,[8] Dewey,[9] Titchener,[10] Baldwin,[11] William James,[12] Scripture,[13] and Sanford,[14] in the United States, have set down in special treatises the progressive results of psychophysiology.

Reviews specially devoted to experimental psychology increase in number. Since 1905, Wundt has followed up the *Philosophische Studien* which he published from 1881 to 1903, with the *Psychologische Studien.* In 1890 Ebbinghaus and Krönig founded the *Zeitschrift für Psychologie und Physiologie der Sinnesorgane,* which was divided later on. Since 1903 Meumann has edited the *Archiv für die gesammte Psychologie.* With von Lay he

[1] *Grundzüge der physiologischen Psychologie ; Vorlesungen über Menschen- und Thierseele ; Grundriss der Psychologie.*

[2] *Leitfaden der physiologischen Psychologie,* 7te Aufl., Jena, 1906.

[3] *Grundriss der Psychologie auf experimenteller Grundlage,* 1893.

[4] *Grundzüge der Psychologie,* 2te Aufl., Bd. I., Leipzig, 1905.

[5] *Psychophysik. Historisch-kritische Studien über experimentelle Psychologie,* Mainz, 1905.

[6] *La psychologie phsysiologique,* French Trans., Paris, 1888.

[7] *The Human Mind,* London, 1892.

[8] *Elements of Physiological Psychology,* 1900. *Outlines of Physiological Psychology,* 1901.

[9] *Psychology,* New York, 1887.

[10] *A Primer of Psychology,* New York, 1900. *Experimental Psychology,* 1901. *An Outline of Psychology,* 4th Ed. 1905.

[11] *Handbook of Psychology,* Boston, 1891.

[12] *The Principles of Psychology,* London, 1890.

[13] *The New Psychology,* New York, 1898.

[14] *Course of Experimental Psychology.*

issued *Die experimentelle Pädagogik*. We may also mention Kräpelin's *Psychologische Arbeiten* (since 1895), the *Beiträge zur Psychologie und Philosophie* of Martius (since 1895), the *Schriften der Gesellschaft für psychologische Forschung*, the *Psychologische Untersuchungen* of Lipps, the *Abhandlungen aus dem Gebiete der pädagogischen Psychologie und Physiologie* of Ziegler and Ziehen, Stern's *Beiträge zur Psychologie der Aussage*, the *Zeitschrift für pädagogische Psychologie und Pathologie* of Kemsies, the *Journal für Psychologie und Neurologie* of Forel and Vogt, and the *Zeitschrift für Religionspsychologie* of Bresler and Vorbrodt.

In France, where M. Th. Ribot made known English and German contemporary psychology, MM. Beaunis and Binet founded *L'année psychologique* in 1895, M. Binet the *Bibliothèque de pédagogie et de psychologie* in 1898, MM. Pierre Janet and Georges Dumas the *Journal de psychologie normale et pathologique* in 1904, and M. Toulouse the *Bibliothèque internationale de psychologie expérimentale* in 1900. In Geneva, MM. Flournoy and Claparède have been issuing the *Archives de psychologie* since 1902.

Italy has its *Rivista di psicologia* by Ferrari, and De Sarlo's *Ricerche di psicologia*.

England appears to have kept quite aloof from the German-founded movement. Doubtless, it is indisputable that men like Spencer, Bain, Sully, and Galton, have powerfully contributed to the direction actually taken by psychology, but hitherto the English have devoted little pains to experimentation properly so called. Nevertheless Messrs. James

Ward and Rivers have been bringing out *The British Journal of Psychology* since 1905.

In America, the vigour of the movement is shown by the founding of two great Reviews devoted exclusively to Psychology: *The American Journal of Psychology*, started in 1878 by Stanley Hall, and *The Psychological Review*, edited since 1894 by Mark Baldwin. Supplementary to the latter have appeared *Psychological Monographs* running already into more than eight volumes. Besides these miscellanies, there are two annual publications, *The Studies of the Yale Psychological Laboratory*, edited by E. W. Scripture, and *The Bulletin of the American Psychological Society*. Several Universities also publish Annals in which psychological work finds a place; for instance, *The Nebraska University Series*, and the *Annals of Pennsylvania University*. Further, there are two very prosperous psychological societies, and one of them, which published a volume of its work in 1889, is affiliated to the English Psychical Research Society.

Lastly, as a final testimony to the universal interest in the researches of experimental psychology, and as a pledge of vitality in this young and developing science, there have already been five Congresses, held in Paris (1889), London (1892), Munich (1896), Paris (1900), and Rome (1905). In Paris the Congress was called *Congrès international de psychologie physiologique*. The Munich Congress took in the whole field of psychology, and was called *The International Congress of Psychology*, a title which has been retained ever since. The last Congress, which was held in Rome, received more

than two hundred and fifty works and communications.

It is clear that in proportion as men's thoughts turn away from metaphysics, their labours become engrossed in the experimental part of psychology.

And now, with contemporary psychology before us in its main outlines and with its distinctive characteristics, let us make a bold sketch of psychology, or rather, of Aristotelian and Scholastic Anthropology.

We shall devote our next chapter to contrasting the rationalist *psychology* of Descartes with the Aristotelian and Scholastic conception of *anthropology*. The Cartesian psychology is wholly taken up with facts of consciousness. In our next chapter we shall bring out the corresponding characteristic of the traditional philosophy.

The following chapters will include first of all a criticism in principle of *Idealism*, the natural result of the Cartesian psychology (Chap. V.); next, of the *mechanical theory*, which sprang from the physics of the French reformer (Chap. VI.); lastly, of the *agnostic Positivism* in which idealist and mechanical tendencies have joined hands (Chap. VII.). The common aim of these three studies will be to bring out the excesses and defects involved in the second characteristic which we ascribed to contemporary psychology.[1]

The eighth and last chapter gives a study of the neo-Thomist movement, and of the possibility of adapting the Scholastic teaching to experimental researches.

[1] See above, p. 164 *ff.*

CHAPTER IV

PSYCHOLOGY AND ANTHROPOLOGY

By *Anthropology* we here mean the philosophy of *Man*. We oppose the term to that of *Psychology*, which, strictly speaking, refers to the philosophy of the soul.

Indeed, the dominant idea of the following pages is this—that the studies now classed under the name of psychology too often put too close restrictions upon their subject-matter by substituting the study of the soul or mind for the study of composite man.

The *aim* of the psychologist is to study man, the manifold manifestations of his activity, and the nature of the principle from which it springs. But through the influence of ideas which it is hard to take account of, it comes to pass that we allow ourselves to notice in human nature simply the subject which consciousness reveals to itself, and get to think that what escapes the inward attention of the mind is no longer man from the psychological standpoint, but man as regarded by the physiologist or the physicist. Hence it follows that man as he is studied *in fact* by the psychologist is not by any means man as the psychologist *intended* to study him.

Hence the conclusions of this kind of psychology, since they are drawn from the data of consciousness exclusively, may perhaps be applicable to an ideal being whose entire nature consists in thinking, but they are certainly not verified in the case of that real being of body and mind which constitutes ourselves.

It is maintained on the testimony of consciousness that man's soul is one, simple, and immaterial. But we know nothing of a being that is one, simple, and immaterial, in the way described. Man as we know him is revealed to us as much by scientific observation as by consciousness. He is subject to the laws of gravity and attraction; he affords the same reactions as the materials of our chemical laboratories; zoology ranks him with the primates; the circulation of the blood and the organization of the nervous system depend in his case, as in that of other organized beings, on general physiological laws. How can he be regarded as a being apart? And the materialist concludes thus: all your arguments in favour of the simplicity and immateriality of the soul miscarry: there is no immaterial soul.

Let it be granted, that there is no proof of the existence of an immaterial soul, the whole activity of which consists in consciousness, and the immateriality of which is revealed immediately by consciousness. A being of this sort is purely hypothetical. Against the existence of such an imaginary being, the demands of physics and physiology are legitimate, and the conclusions which the materialist draws from them admit of no reply.

But our modern materialist with his *cons*, just

as much as the Cartesian spiritualist with his *pros*, reasons aside from the question really at issue.

Is there, or is there not, a corporal being, existing in space, subject to physical agencies, made up of living cells, provided with vertebræ, a nervous system, and the organs of sense, and further furnished with a psychic activity that is at least on a level with that of the highest animals? Quite plainly, Yes.

Now, the object of an unprejudiced psychology is the complex being whom we call *Man*. Medieval philosophers said he was a *microcosm*, to indicate how far his wealth of activities is a kind of synthesis of all cosmic energies.

Are all the exercises of human activity reducible to those of the lower animals, or if there are any which are irreducible, of what kind are they? And what are these exhibitions in themselves, and in relation to one another, and in relation to the subject that manifests them? Such are the essential problems of the science of anthropology.

And so we come to this definition: the fundamental thesis of anthropology, from the Scholastic standpoint in contrast with the psychology of Descartes, consists in maintaining the *substantial unity of man*.

The highest acts of mental and moral life depend upon the body.

The normal temperature of the human body is about 98° F. Two or three degrees below numb the brain, and two or three degrees above heat it to the point of delirium.

Mosso judges, according to the beating of the pulse, whether a person is distraught, or able to reflect. He remarks a modification in the curve, when the subject is perusing a page of easy reading or striving to translate a passage of Homer.

The plethysmograph shows the variations in the emotions. These, again, aid or impede the will, according to circumstances, but free will must always take account of them. All of us feel in our members the humiliating law spoken of by St. Paul, against which we must struggle, if virtue is to win the victory.[1]

[1] St. Thomas admirably sums up the mutually dependent relations between soul and body in a passage which has often been quoted, but which we cannot refrain from reproducing here: *Secundum naturae ordinem, propter colligantiam virium animae in una essentia, et animae et corporis in uno esse compositi, vires superiores et inferiores, et etiam corpus, invicem in se effluunt quod in aliquo eorum superabundat; et inde est quod ex apprehensione animae transmutatur corpus, secundum calorem et frigus et quandoque usque ad sanitatem et aegritudinem, et usque ad mortem: contingit enim aliquem ex gaudio vel tristitia vel amore mortem incurrere. . . . Anima conjuncta corpori, ejus complexiones imitatur secundum amentiam vel docilitatem, et alia hujusmodi. Similiter ex viribus superioribus fit redundantia in inferiores; cum ad motum voluntatis intensum sequitur passio in sensuali appetitu, et ex intensa contemplatione retrahuntur vel impediuntur vires animales a suis actibus; et e converso ex viribus inferioribus fit redundantia in superiores; ut cum ex vehementia passionum in sensuali appetitu existentium obtenebratur ratio, ut judicet quasi simpliciter bonum id circa quod homo per passionem afficitur.—De Veritate*, Q. XXVI., A. 10.

Many experiments might be adduced by way of scientific commentary on the above, *e.g.*, those of M. Ch. Féré:

" I have often remarked that when a subject was the victim of a painful emotion, the tension of the apparatus slackened and remained below the normal, whereas it increased when the subject was in an opposite state of feeling. The plethysmograph may therefore reveal psychic manifes-

Thus, the functions of human life of every degree possess a mutual interdependence. The soundness of the organs and their normal physiological working assure the regularity of nutritive and sensational life, and these constitute the necessary foundation of the mental and moral life. Therefore between all forms of human activity there is a bond of unity. One principle must bind them together, and one original tendency must make them converge towards the wonderful, steady, and orderly end which they fulfil.

Here we shall leave the subject, as we do not mean now to set forth *ex professo* the principal theses of Scholastic psychology one after the other, but merely to indicate their bearing, and to mark their place in discussing the systems with which we are contrasting them.

If such is man's nature, and if, therefore, the conscious soul is only a part of man, and a part that depends in all its manifestations upon that other part, which is the body, it is impossible to infer the nature of the soul from an exclusive consideration of the mind.

" I am something that thinks, and nothing more," said Descartes, " and it is this thing that thinks that I call indifferently spirit, soul, mind, or reason."

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tations apart from any apparent motive. In the case of a deranged person I was able to ascertain that there were changes in the circulation, even when the hallucinations were only slight. This discovery may be useful in the case of lunatics who are shamming, to reveal hallucinations or impulses, and to indicate to the doctor the degree of excitement or depression, and also to show him the best influences to sway the patient with."—Ch. Féré, *Sentiment et mouvement*, Paris, Alcan, 1887, p. 115.

I am something that thinks, or more exactly, it is my nature *to be able* to think. Yes.

I am *nothing more* than something that thinks—in other words, my *whole* nature is thinking or mind. No.

Descartes' proposition is true so far as it is *affirmative*, but it is disproved by the testimony of consciousness and experience, as soon as it is made *exclusive*.

Besides, it is not strictly accurate to say, even in an affirmative sense, that I am something that thinks. I am only something endowed with the *power* of thinking.

Before I began thinking I existed, and, what is more, I acted. The babe in its mother's womb is not essentially different from the subject which, later on, judges, reasons, and deliberates. What experience or experiment is there to prove that it *thinks?*

The brilliant historian of the Cartesian philosophy, M. Francisque Bouillier, admits this consequence, so as not to have to repudiate the principle from which it logically springs. "Consciousness is absolutely penetrated by all psychological phenomena," he writes, "and conversely, so are all psychological phenomena by consciousness. . . . Consciousness is not only co-extensive with all the faculties of the intelligence, but with all the faculties of the soul without exception."[1]

But a system which results in such consequences is self-condemned.

[1] F. Bouillier, *De la conscience en psychologie et en morale*, Ch. VI., p. 82.

From the moment when the segmentation cell leaves its parents and divides, multiplies, gives rise to germinal structures, and is then differentiated progressively into tissues and forms adapted to the various functions of the organism; from the moment when, in vertebrates, the central nervous system begins to take shape, until the time when the cerebral hemispheres are fully developed, there are several months during which physiological life is manifested without our having any reason to infer that there is any conscious life.

Embryogeny proves that the hemispheres only begin to take shape after seven months of embryonic life, and many months are needed before they are fully developed.[1]

From the beginning of extra-uterine life certain nervous phenomena may very well occur in the case of the new-born infant—and even in the case of the embryo in the last period of its intra-uterine life; but the physiology of the nerves and brain leads us to infer that any *inner sense* of the vital activities can only arise later on. According to the last works of Flechsig, indeed, the brain of the new-born infant, from a functional point of view, is entirely similar to the brains of lower mammals without centres of association. Until the end of the first month, all the new-born child's movements are reflex movements. Through the lack of development of its centres of association, called by Flechsig " mind-centres," the infant is incapable of voluntary movements, and all its manifestations of vitality consist in reflex reactions to external stimuli. More-

[1] Hertwig, *Embryologie*, p. 395.

over, the maturity of a nervous fibre is characterized by the appearance of myelin around its cylinder-axis; but Flechsig ascertained that the sensory fibres of the telencephalon only begin to form myelin after the eighth month of embryonic existence; and hence, before then the conduction of impressions to the projectory centres is impossible, and it is only when the latter centres are provided with myelonal fibres that their connection with centres of association can be established, which only occurs after the second month of extra-uterine life.[1]

In fact, says Preyer, the new-born infant only gradually comes to *look at* things. At first his sight is but vague and passive, and looks at nothing. It is only later on that he shows clear and active sight. Then he begins to follow with his eyes and the movement of the head any slowly moving object, and regards things within range of his own accord.[2]

These conclusions of the learned psychologist of Jena, as well as those of the Leipzig anatomist, coincide with the old distinction of the Scholastics between the external senses and the inner sense. The life of the senses goes through several successive stages. Sense-consciousness, and *a fortiori* mental consciousness, is not at the beginning but at the end of this evolution. Sensible life itself is preceded by a stage of biological development in which all the activities of the soul are expended in the organization of living matter.

[1] P. Flechsig, *Gehirn und Seele*, Leipzig, 1896, S. 23. Cf. Van Gehuchten, *Anatomie du système nerveux*, Louvain, 1897, p. 704.

[2] Preyer, *L'âme de l'enfant*, p. 147.

Therefore, the essence of the human soul is not in *thought—i.e.*, in the exercise of the act of thinking; nor even in the *power* of thinking or knowing, even in the most rudimentary sense of the word. The primary function of the soul is to inform bodily matter, to " animate " it—*i.e.*, to make it live—to organize it, and to render it apt to exercise the functions of the sensible life in proportion to the development of the whole organism. Intellectual life, properly so called, depends, in its turn, upon the sensory functions in which it finds forced auxiliaries. Thus, the first fundamental thesis of the Scholastic anthropology as to the substantial unity of man leads directly on to the following thesis:

It is of the nature of man's soul to inform matter. Its operations, and especially consciousness, are posterior to the substantial act of information.

As to the order of the appearance of the acts which originally emanate from the subject, it is as follows: Naturally and chronologically, sensation is posterior to biological phenomena. The inner sense, appetition, and spontaneous movements are posterior to external sensation. Lastly, intellectual knowledge and acts of the moral order are the last to appear in the life of the soul.

The analysis and comparison of these various acts lead to the formulation of a third thesis:

The different acts, of which man's nature is the first principle, are only produced by the faculties; and between nature and the faculties, as also between the faculties themselves, there is a real distinction.

To sum up: To the exaggeratedly simple psychology of the author of the *Discours de la méthode* and the *Méditations*, a psychology according to which the soul is a thinking being and nothing else (so that between thought and the thinking soul there is simply the difference of the point of view), Scholastic philosophy opposes the thesis of the real distinction between the substance and its acts, between the substance and its faculties; and it insists upon the multiplicity of the faculties, and endeavours to show the foundation of their division.

Thus, we desire to prove that our acts are not pure modalities of the soul, as Descartes maintained, but that they proceed from the substance of the soul by means of faculties which are really distinct from it.

In truth, this thesis extends far beyond man's soul to all created substances. No created substance, indeed, acts of itself, but all need intermediaries, called instrumental causes, powers, faculties, to fulfil the acts of which they are the original principles.

In fact, in the created being, *to exist* and *to act* are two forms of act which cannot be identified.

But an act gives the measure of the power which it actualizes, for there is necessarily some proportion between the act of a subject and the subject of the act. *Semper enim actus proportionatur ei cujus est actus*, says St. Thomas.

Therefore, the two subjects respectively capable of the act of existing and of the act of acting are not identical.

But, to the former we give the name of *essence*

or *substance;* to the subject of the second, the name of *operative power.* Hence there is a real difference between essence or substance and operative power.

In God alone, substance is active of itself. Or rather, that which, in created beings, answers respectively to essence, and to power, to existence, and to action; in the case of the divine Being is but one and the same transcendent perfection.

Perhaps the objection will be made, that the act of existence comes under essence, whereas operation comes under essence assumed to exist. Hence it appears legitimate to conclude that, in order to explain how existence and action answer to different subjects, it is not necessary to admit one or more faculties distinct from essence.

But one cannot make of operation an act that rests upon the act of existence. The latter is necessarily the final act. *Esse est ultimus actus.* Existence is the crown of all being and of everything there is in any being. Try to conceive it as an actualizable power which is actualizable, either in operation or otherwise, and you will not succeed. When you have said of a thing, substance, power, operation, or no matter what, that it exists, you have uttered the final word about it, and nothing can be added thereto. *Esse est ultimus actus.*

Hence operation cannot actualize existence. And therefore the metaphysical argument of St. Thomas stands. Operation and existence really differ from one another. But acts that really differ can only determine potentialities that really differ. Hence the *power* determined by the act of operation really

differs from the *essence* determined by the act of existence.

We know that phenomenalists maintain that we are the victims of an illusion. They say that " faculty " is merely a word meaning " a permanent possibility of action."

We shall discuss this conception of activity later on, when we have to criticize positivism. Here we shall continue our proof of the existence of faculties really distinct from the substantial subject that makes use of them. Let us now apply to the human soul the thesis of the real diversity of faculties.

Assume that substance is not really distinct from its powers. Assume, for instance, that the substance or nature of man may be really taken for the powers of organic life, of the life of the senses and of the mind. Assume, in other words, that man has only *one* active power, and then it follows that there must be *one* act in which *all* the activity of which the soul is capable would be found.

But this is not the case. The soul never exerts more than a part of its energy, either by way of sensation or sensible appetition, or by way of vital functions, or else by way of mind or volition. These forms of activity are variously associated or combined, but we are never conscious of *one sole* act in which the fulness of the soul's activity is summed up. Therefore human nature is not a *single* power.

Assume, on the contrary, that man possesses several really distinct principles of action, and then each one will have its proper mode of activity and its special conditions of exercise. The soul will expend

its energy in various ways according to circumstances, and this is what experience testifies in fact.

Shall we say, then, that the soul consists of a single power, but that it never meets with conditions suited to its fulness of action? This would be an arbitrary supposition, for a power which is never fully realized may be regarded as chimerical. Acts, indeed, are the only means we have for discovering a principle of action. Consequently, to affirm the existence of a principle of action, and not to know any of its acts, would be a piece of *a priori* reasoning.

Hence Descartes was deluded when he thought he could confuse the reality of the act of thinking with the reality of the thinking subject. He allowed himself to be deceived by the fact that inward phenomena, "notions and judgements, sensible affections, and even will," can all be represented in thought. He did not see that, notwithstanding their common representational character, they are none the less different in their intrinsic reality.

Living, knowing by the senses or the mind, willing a sensible or a suprasensible good, moving, are acts that cannot be identified; and therefore the principles from which such acts respectively proceed cannot be identified.

Indeed, such acts diversify the powers from which they spring, and for which they are done; for what is a power but a means of making an act? Thus act and power are correlatives.

Wherefore, if the classification of acts means the classification of powers; if the two classifications

can only possess one and the same foundation; since the foundation of the real distinction between acts is the formally adequate distinction between their objects, this same formally adequate distinction between the objects is the foundation of the real distinction between the powers or faculties.

It may be objected that a distinction in the effects does not clearly prove a corresponding distinction in their principles. We reply with Cardinal Cajetan, that this is not the right way of looking at it. " Acts distinguish powers, not as effects distinguish their efficient causes, but as ends distinguish means."[1]

There is no doubt that a faculty is an efficient principle whereof the act is the effect or result. But, from another point of view, is it not a means whereof the act is the object or end, an aptitude or tendency to realize that end ?

Hence follows this dilemma. Either it is possible for a tendency to be towards various adequately distinct ends—and this is absurd—or else these same ends, being adequately distinct objects, correspond to tendencies of distinct natures—*i.e.*, to faculties or powers that are really distinct.

Besides, there are acts between which there is a real and vital reciprocity, as consciousness testifies. How can these be identical ? At the same moment, how can the subject be agent and patient, mover and moved ? Therefore, how can the principles of such acts be reduced to identity ?

Is it not true, in fact, that *willing* is really sub-

[1] Cajetan, *In Summ. Theol.*, I., Q. LIV., A. 3. Cf. Suarez, *De Anima*, II., cap. 2, n. 7 *et seq.*

ordinate to the presentation of the good which is its object ? Is it not true, that the will can keep the mind under control and *command* its attention ?

It is well established, then, that a created nature cannot act of itself, but needs powers distinct from itself to bring into play the resources of activity of which it is the original principle.

" The same conclusion," says St. Thomas, " emerges from the order that exists between the powers of the soul, and from their reciprocal influence upon one another. Thus, we are bound to observe that one power moves another—*e.g.*, the mind the will. But this could not take place if all the powers were the very substance of the soul. Two absolutely identical beings cannot move one another." Therefore, for this reason again, we come to a multiplicity of faculties, and for us the corollary follows, that they are distinct from the substantial being of the soul, since a single subject cannot be identical with several terms that are not identical with one another.

Acting upon such considerations, *the Scholastics distinguished five different kinds of faculties in man.* These comprised respectively, organic life, sensible knowledge, mental knowledge, volition consequent upon these two kinds of knowledge, and acts of locomotion.

The considerations we have mentioned gave rise to two controversies which it would be interesting to dwell upon for a moment.

The first tries to ascertain whether the faculties are really anything more than convenient labels for classing together acts wearing the same appear-

ance. Is it not enough, with Taine, to look upon them as " permanent possibilities " of sensations ? But this discussion will be better relegated to the chapter in which we shall examine the doctrines of positivism.[1]

The second discussion concerns the part assigned to " affective sensibility " in our psychological life. With regard to this, we only desire to show how the controversy now stands.

The Cartesian psychology substituted the study of the soul for the study of man, and at a single step it cut out of its programme biological and locomotive phenomena. It went on contrasting " mental " with " volitional " phenomena, but allowed doubt to hang over the natural distinction between sensible and suprasensible phenomena, for it labelled with the ambiguous name of " inner sense " or " consciousness " all the acts that spring from knowledge, and gave the name of " will " to all those that are of an appetitive character.

On the other hand, it lumped together affective phenomena in a group or faculty apart, which it called " affective sensibility," or sensation.

At first sight, between the representational activity of the senses or of the mind and the volitional movement to which it gives rise, it may appear that in us there is presented an intermediary state wherein, without any relation of subject to object or of object to subject, occurs a change that is

[1] We should overstep the limits of our subject were we to try to justify the traditional doctrine about the faculties on every point. Regarding this essay merely as a general introduction to psychology, we confine ourselves to giving only the main outlines of the theories we mention.

entirely inward and passive, and which is translated, still within us, into the shape of feeling or sensation, which may be agreeable or disagreeable, pleasurable or painful. Shall we not, then, have to give these affective or emotional phenomena a place of their own in psychology, and therefore, according to what we have just said, a special affective faculty?

We think not. To desire a good, to take possession of it, to enjoy it—these do not appear to us to be specifically different acts, but much rather as three stages or moments following one another in the continued development of a tendency that is fundamentally one.

Two competitors aspire to a position. They not only wish for it, but they both take steps towards it. This is the first stage—*i.e.*, the *desire* for a good that is absent.

One of the two succeeds, and the other fails; the first rejoices, the second grieves. Are they not both following in opposite ways one single tendency? It was satisfied in the one case, crossed in the other, but it was the same tendency that made them aspire to the position just now, and that later on made them, in opposite directions, rejoice in having won it, or grieve over failing to get it.

But everyone grants that the faculty of *desiring* the good is nothing else than the will. Hence is it not natural, by inference, to refer pleasure or pain to the will, while the transition from desire to pleasure or from desire to pain should be attributed to the determining action of an intermediary principle, sensational or intellectual knowledge?

A distant good was regarded as desirable. Looked

upon as within the reach of the will, it is recognized as accessible, and the will takes hold of it, and gets possession of it. The expansion of the will, which follows upon this taking possession of the object, is called *enjoyment*.

Hence it seems to us that enjoyment is a manner of being of the volitional faculty, and that it is provided by a judgement which shows that a loved good is present. What brings the volitional faculty into contact with the loved object is a determining cognitive act, the intuition that the object of the tendency or of the desire is now within the reach of the will.

If this analysis is correct, it is not necessary to class affective data apart from the will, nor to require a special faculty to explain affective states.

The psychology of the school of Descartes and Leibnitz shut its eyes to the existence of *passive* faculties within us, and this appears to have given rise to mistakes on their part. We call a faculty *passive*, not in the sense that it may or can be acted upon by an agent in opposition to it; for in that sense one may say that all created powers are passive. All indeed, even mechanical and physico-chemical forces, are governed by the law of action and reaction. When they act upon a patient, this in turn reacts upon them, and consequently they in their turn *undergo* its action, which is the result of theirs.

But there are *passive* or *receptive* powers in this sense, that, in order to be able to exercise their action, they need to receive an *intrinsic* complement, a kind of formal co-principle to complete their apti-

tude for such exercise and to determine the direction of their activity. Without some such determination, a cognitive faculty, which is capable of knowing any kind of object, would never know such and such particular objects, unless they had actually been submitted to the exercise of its energy. In the same way, the power of volition could never be exercised *in the concrete*, unless an occasion were presented to the volitional faculty by the cognition of a being thus intended to be an object of the act of a specialized volition.[1]

It is this *passive* phenomenon, inherent in various faculties of the soul, that the partisans of the tripartite division thought they ought to regard as a fact to be classed apart, as arising from a special faculty.

It appears to be more in conformity with the data of inward experience to make it a simple generic characteristic common to several faculties. Thus pleasure would be explained as a manner of being of our appetitive faculties, and especially of the will, when in presence of and in possession of their object; for if all the faculties may be causes of pleasure, it is nevertheless in the appetitive faculties that pleasure *resides*.

Let it be further remarked that although pleasure and pain betray indisputable passivity to a certain extent, they are none the less not exclusively passive on that account.

Every normal action—that is to say, every action that does not overstep the bounds of the activity

[1] *Potentia appetitiva est potentia passiva quae nata est moveri ab apprehenso.*—St. Thomas, *Summa Theol.*, 1a, Q. 80, A. 2, *ad* 6.

of a correlative faculty of the soul, but is included in the natural hierarchy which harmoniously subordinates all the faculties to the intrinsic end of the whole being—begets in the will a passive disposition to receive, by means of cognition, the definite term of such and such a particular effort. In such conditions there arises an activity which bears the will towards the term which is presented to it. And when the action remains normal, the obtaining by the will of the desired good causes pleasure, a pleasure that increases according to the increase, and within the bounds, of the degree of the activity.

In the case of pain, quite recent experiments have once more proved its correspondence with the exaggeration or diminution of energy expended, and this confirms our opinion on the subject.[1]

This conception of *passive* power was wanting in the case of Descartes. Moreover, instead of regarding the intelligence, as it really is, as an aptitude of the soul for being affected by things, Descartes considered that the thinking soul was an active substance of its own nature, drawing from itself, in its solitary independence, the notions of self, of other spirits (minds), of God, and of outward sensible things.

No doubt, from the moment that it is conscious of acting, the soul is in the state of perceiving within itself the bare fact of its own existence. Indeed, its action is not manifested without bringing to light the cause of action which it involves. For this the least action which comes into consciousness

[1] D. Mercier, *Psychologie*, 8th ed., II., p. 160.

suffices. The general sense of our inner life, which is called *cenæsthesis*, and which many philosophers consider should be referred to a separate fundamental sense, is inseparable from a dim consciousness of the existence of the Ego.

But, with the exception of this primary notion of the soul's presence to itself, all the wealth of the intelligence depends upon the efficient causes to the action of which it is subject.

There is no part of it which does not reveal the sensible origin of its content, and the use of which does not demand the collaboration of the imagination and, necessarily, of the mechanism of the brain. On this subject, consult consciousness, consult the physiology of the brain, go back to the lowest strata of speech, and everywhere you cannot fail to discover the dependence of thought upon the world of sense.[1]

It is a commonplace with a certain school of spiritualist philosophers to distinguish ideas into pure ideas and mixed ideas, the first being regarded as the products of the mind alone, and the second as arising from the concurrence of the imagination or the senses. But consciousness testifies that there are no pure ideas. All our mental representations demand the concurrence of the senses with the mind. They depend upon the senses not only for production, but also for reproduction. Every idea has an image as its substratum, and without this it cannot revive.

Even the Being whom we apprehend as substantial Mind, as the supreme Spirit, as well as all

[1] See further D. Mercier, *Psychologie*, II., No. 167, pp. 11-20.

others, we cannot help representing to ourselves with the assistance of elements borrowed from the world of matter. All the positive elements of the content of our notion of God are attributable to the things of sensible experience as much as to God Himself. And we are driven to have recourse to a negation to mark this positive content with a sign that makes it applicable to God only.

Moreover, if we will, we can give ourselves an actual feeling of the sensible being the inevitable aid of the soul in its ascent towards the abstract. If we undertake, for instance, to provide ourselves with an actual, distinct representation of the notion of *equality*, are we not conscious of going immediately in quest of two sensible things, of two magnitudes, of which the two lines of the sign of equality (=) are the symbol? We bring these two concrete magnitudes together, and we compare them for the purpose of abstracting from this example a relation that is not exclusively bound to its sensible substratum. We endeavour to fix in our minds an intelligible abstraction which will define equality. St. Thomas, then, is right in saying *experimento cognoscimus nos abstrahere*—" experience teaches us that we make abstractions." And is not the very word " abstraction " (*abs-tractio*) truly significant of our efforts to separate from their sensible substrata the intelligible attributes of the objects which we consider and compare? We are conscious of the indispensableness of some sensible support, even for the purpose of reviving an abstract concept. " The life of the intelligence ends," according to the saying of St. Thomas, " in detaching the idea from

the image and in discerning it in the thing imagined."[1] Hence the connection between the idea and its concrete substratum is natural and indisputable.

But, in the work of abstraction, the faculty that performs the cognitive act is not of itself an active force. It is a passive power which, in order to act, must receive an intrinsic complement without which it would remain practically impotent. And this second ideological theorem also depends upon experience.

Indeed, there is a kind of knowledge which is called *habitual*, a sort of state that is intermediate between bare potentiality and the act in exercise.

Before we began to learn geometry, we had a *potential* knowledge of it. Our teacher, using his knowledge of it, possessed an *actual* knowledge of it, and his teaching helped us to possess *in fact* the knowledge which we could potentially acquire.[2]

Now, between this simple power of acquiring a notion and the notion itself, taken at the moment when it is presented to the mind, there is an intermediate stage in which the idea *informs* the cognitive power and makes the act of cognition immediately possible. At this moment, however, the object of

[1] *Finis intellectivae potentiae . . . est cognoscere species intelligibiles quas apprehendit a phantasmatibus et in phantasmatibus secundum statum praesentis vitae.—Summa Theol.*, 3a, Q. 11, A. 2, *ad* 1.

[2] The Scholastic doctrine of *habitus* has been profoundly treated by Cardinal Satolli in his *De habitibus doctrina sancti Thomae Aquinatis*, Romae, 1897. Chapters I. and IX.: *Notio habitus ; De distinctione virtutum intellectualium* are specially remarkable from the ideological standpoint taken by ourselves.

the notion does not as yet reveal its content to consciousness. The idea, when regarded in this intermediate stage, is called *habitual*.

When we cease to practise a science, its *habitual* ideas still remain with us, and the science, which was actual, then becomes *habitual*. Its presence in us is shown by the faculty we possess of awakening in ourselves at will the notions we have acquired, and this we must not confound with the simple power of acquiring them.

Will it be said that this *habitual* knowledge is a simple disposition to do over again the work already done, an acquired facility of setting to work again? No; it is more than that. He who possesses any science habitually can revive its *objective elements*, its *notions*, at will. His greater facility in doing over again the work already done appears to be a consequence of what he has acquired; and because he is stocked with the habitual ideas required for the exercise of his intellectual perception, he experiences a greater readiness in linking together the concepts, judgements, and reasonings of the science possessed by him—*e.g.*, geometry.

Thus *ideas*, the store of which makes *habitual* knowledge, are, at the moment of their appearance, complementary determinations of the cognitive power of the understanding. They are, in the language of the School, "intelligible species" or "intelligible forms," by means of which the intelligence, *νοῦς δυναμικός*, is enabled to pass from potentiality to act.

Now, it is physically impossible for a power to provide itself with the intrinsic complement required

for its own action; for, in order to provide it, it would have to act, and therefore to presuppose the very complement in which it is wanting. A faculty in a potential state, such as the *νοῦς δυναμικός*, calls for an active force to act upon it. This active force is called by Aristotle's psychology the *creative intelligence, νοῦς ποιητικός*. This is really distinct from the cognitive faculty; for, to act in an efficient manner, and to conceive the representation of a thing, are two *specifically* different acts, and therefore, according to the principle already laid down,[1] they depend upon faculties which cannot be reduced to one another.

The creative or efficient intelligence does not act alone. Its action combines with that of the imagination to effect in the subject destined to conceive representations of things the determination demanded by cognition.

Descartes, as we have already remarked, had no conception of a *passive* understanding. He regarded the mind as originally possessed of all the conditions required for the exercise of thought. According to him, certain ideas, such as that of God, cannot be acquired. Indeed, he says that the idea of the perfect Being cannot come from an imperfect being nor from ourselves, and consequently it cannot come from the created things around us. Hence it must be innate, and God must be the author of it. The fallacy of all this is patent.

Doubtless an idea of the perfect Being, which itself would be *perfect*, could only come from a

[1] See above, p. 228.

perfect cause, and therefore from God. But our idea of the perfect Being is only very imperfect, and the great variety of the elements of which it is composed, and their sensible origin, and the negations which we are driven to attach to them to fit them for being applied to so high a concept as that of God, bear witness to the inevitable imperfection of our idea of the perfect Being.

Thus Descartes' innateness, far from being able to appeal to experience, is convicted of being in opposition to it. Moreover, his theory is useless. For the purpose of our ideas is, indeed, according to Descartes, to bring us into intercourse with the world which is outside the Ego. But, in this case, what is the use of innate ideas? Will it be said that their application to natural things is made blindly, or that it is made consciously?

Let us grant the first alternative. Let us suppose that we borrow all the content of these ideas from the thinking subject, and that we afterwards apply them blindly to external things. On this hypothesis, what guarantees the rightness of our application of our ideas to existing things? Every step taken by the understanding becomes a leap into the unknown.

On the other hand, if the mind carries on the work of application consciously; if, in other words, it has the power of comparing the conformity of its ideas with the things to which they are applied, it is useless to assume the existence of innate ideas. Indeed, no sooner is the intelligence able to borrow ideas from the things of nature to put alongside of its innate ideas than the latter must double the work to be done.

The *ideology* of Descartes, so far as it deals with the genesis of ideas, is not only a theory without a foundation and contradicted by experience, it is also a superfluity.

From a *criteriological* point of view, Descartes' philosophy is no less defective.

The chief object of the author of the *Discours de la méthode* and the *Méditations* was to make sure of the fact of existence.

When I have done my best to push my doubt to its furthest limits, when I have come to doubt everything without exception, there remains the fact, says Descartes, that I doubt, I think, I exist. The certainty of the existence of my doubt, my thought, myself, this is "the first principle of the philosophy I was looking for."

Being conscious of my doubt, I am conscious of my imperfection. Being conscious of my imperfection, I must have a prior knowledge of perfection. The notion of perfection can only come from a perfect God. Therefore God exists, my nature is His work, and I can rest assured that this infinitely wise and good Being will not allow me to go astray when I use my powers to form clear and distinct notions of the things which I naturally want to know.

Whatever one may think as to the value of the supreme guarantee of certitude which, from a synthetic point of view, the mind may find in the divine attributes,[1] it is indisputable that, from an analytical point of view, Descartes' criteriology is lacking.

[1] See a remarkable study on the subject by M. G. Fonsegrive, *Les prétendues contradictions de Descartes* (*Revue philosophique*, t. xv., 1883, pp. 511 and 643).

Indeed, the question of the certainty of the fact that things exist is a secondary one in criteriology. The major and most important part of knowledge is made of ideal judgements. The mathematical and metaphysical sciences are purely ideal. The physical sciences and the practical work of our daily life presuppose the use of numerous principles of the same order. It is enough to mention the laws of numbers, the axioms as to being and non-being, and the principle of causality.

Now, the certainty of an ideal judgement is independent of contingent existence. Whether there be or be not in nature real things which can be multiplied, nevertheless in every multiplication, the multiplicand may become the multiplier, and inversely the multiplier the multiplicand, and yet the result will not be invalidated. The contradiction between being and non-being, and between affirmation and negation, dominates and precedes all experience. Even if the physical world were annihilated, even if the self-conscious mind were the sole existing being, still it would be true that the transposition of the factors would not change the sum of their product, that being excludes non-being, and affirmation negation.

No doubt, even in this hypothesis, there would remain a contingent existence, that of the thinking subject. But if the existence of thought and of the thinking Ego is the *indispensable condition* of an intuition of the terms governed by the principles, and therefore of the psychological formulation of the principles themselves, the truth of the formulated principle is nevertheless not based upon the existence

of the psychological fact any more than the certainty of the principle has as its determining cause the truth of the psychological fact.

Therefore the object of the rational sciences is distinct from that of the sciences of observation, and it raises quite a different problem in critical philosophy from the problem of the certainty of existences.

Moreover, the latter, even if confined to the certainty of the existence of thought and of the thinking subject, cannot do without the help of ideal principles.

To be sure that one thinks and exists, is not merely to have an intuition of the inward manifestation of a phenomenal object; it means *forming a judgement* that beyond the phenomenal object there is a real existence; or, better still, we may say that it means to judge that, given the fact of conscious perception from which the judgement arises, it is *necessary* for the objective term of consciousness to have some corresponding reality. To be sure of a thing, it is not enough to know that the thing exists, one must also be convinced that *nothing can be anything else* than what it is. The certainty of the most elementary fact, even the fact of thought, must therefore have as its indispensable support the affirmation of a necessity higher than any concrete existence. It is necessary that what I perceive shall be nothing else than that which I perceive—in other words, that it shall be *true*.[1]

[1] *Contingentia possunt dupliciter considerari : uno modo secundum quod contingentia sunt ; alio modo secundum quod in eis aliquid necessitatis invenitur : nihil enim est adeo contingens, quin in se aliquid necessarium habeat ; sicut hoc*

Thus, in the general question of certitude, there are two problems which are essentially distinct. The first has to do with the *objectivity of the relation* between the predicate and the subject, and may be confined to the objectivity of principles of an ideal order: the second has to do with the objective *reality* of the terms of the judgement, whether that reality is concerned with that of the Ego, or whether it has to be verified in things existing outside, belonging to the non-Ego.

But the solution of the first problem is independent of the solution demanded by the second, whilst the latter is essentially subordinate to the former.

Kant wisely appreciated the distinction of these two successive stages of the critique of the reason. Descartes had no clear idea of the subject. He concentrated all his dogmatic efforts solely upon proving the reality of existence, and the result was a critical philosophy that was narrow and fundamentally defective.

The examination of Descartes' psychology has led us to bring out the fundamental theses which the great innovator of modern philosophy contradicted or failed to understand, and to which we have endeavoured to draw attention.

1. Man is a *single* compound substance, made of matter and an immaterial soul.

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ipsum quod est Socratem currere, in se quidem contingens est, sed habitudo cursus ad motum est necessaria, necessarium enim est Socratem moveri, si currit.—St. Thomas, *Summa Theol.*, 1a, Q. 86, A. 3.

2. It is of the nature of man's soul to inform matter. Operations, especially consciousness, are posterior to the informing act.

3. The substance of the soul is not active of itself. Moreover, no created substance acts immediately of itself. Hence there must be intermediary principles, faculties or powers really distinct from the subject from which they emanate, between the soul and its acts.

4. The powers of man are included in five classes. His distinctive powers have as their respective terms thought and volition. There is no room for assigning a place apart to affective phenomena, nor for recurring, in order to elucidate them, to the hypothesis of a special faculty which is named affective sensibility or feeling.

5. The mind, the higher cognitive faculty of the soul, is a passive power. The prerequisite for its cognitive acts is a complementary intrinsic determination, the faculty of which depends upon the combined effects of imagination and the active intelligence; and the latter is an efficient cause which is really distinct from the cognitive power of the understanding.

6. The criteriological problem is twofold. First, it deals with the objectivity of the relations to which form is given by judgements, and methodical strictness requires that it should be primarily confined to judgements of an ideal character. Next, it deals with the objective reality of the terms of the judgement. The solution of the second problem essentially depends upon the solution of the first.

CHAPTER V

CRITICISM OF THE IDEALIST PRINCIPLE

One fundamental idea underlies all idealist theories. It is that it is fundamentally impossible to reach any absolute reality beyond ideas. It is physically impossible for the subject to go outside of himself. Therefore the thing-in-itself, *das Ding-an-sich*, is essentially unattainable.

It is important to remark, at the outset, that idealism cannot stop halfway.

The idealist tells us it is impossible for the subject to go outside of himself to lay hold of the external world. Like Descartes, he cannot possibly tell whether his ideas inform him faithfully as to nature, even as to the existence of material things. Indeed, who can give us any assurance that the modality of the cognitive act does not disfigure absolute reality ?

But if this argument tells against our knowledge of the external world, it tells equally well against the information given by consciousness. For, as a matter of fact, consciousness only reaches the reality of the conscious Ego and of its own conscious states by means of acts of cognition. If we are allowed to be satisfied with the assumption that consciousness essentially distorts reality, we are logically driven to go further and to maintain, with M.

Remacle, that " there is illusion in every state of consciousness, . . . that to speak of knowing a state of consciousness is a self-contradictory phrase, for by knowing it, we plainly do not mean knowing it *as it is*. Hence we must conclude that there are necessarily two kinds of idealism: an idealism that may be called *outward*, because it has to do with the external world; and an *inward* idealism, which has to do with the inner world. The second is the underlying reason of the first."

Does this go far enough? Is M. Remacle consistent? " The state of consciousness," he writes, " is an existence in itself, an absolute. Man's mental life is nothing else, in its mysterious depths, than an incessant flux of things-in-themselves."

No doubt, he maintains that " knowledge does not lay hold of the thing-in-itself. On the contrary, knowledge is opposed to consciousness. The conscious state, so far as it is a conscious state, has no relation to anything whatever. But knowledge gives it a relative character, and transforms the reality into an illusion. It is, by its very definition, 'the creation of an illusion or of an appearance, *φαινόμενον*.' "

Nevertheless M. Remacle still admits the existence of things-in-themselves, conscious states which the subject " distorts," as we may grant, when Tantalus-like he endeavours to know them; but since he means to know them, apparently he believes in the reality that he pursues.

Now, such a position is illogical. If it is of the nature of *knowledge* to distort reality, it is also bound to distort conscious states, by the very fact of taking

the state of consciousness as the term of the cognitive act. But, if we are to speak of a *state of consciousness* for the purpose of opposing it to an *object of knowledge*, apparently we must first know it. To speak of things of which we have no knowledge is not idealism, but psittacism.

Therefore it is self-contradictory to speak of a state of consciousness as of a thing-in-itself, free from all cognitional distortion, in order to oppose it afterwards to the same thing-in-itself disfigured by a subsequent act of cognition.

The instance which, according to M. Remacle, knowledge (perception) distorts, can only be distorted by being present to the mind, and consequently, by thus undergoing the distortion which presentation to the mind and by the mind renders inevitable. Thus it becomes impossible to compare a perfect instance with a distorted instance, a pure reality, even were it the reality of a state of consciousness, with a reality impaired by cognitive representation.

Consequently, the supposed opposition between some reality in itself and the object of a cognition is unintelligible. It is self-contradictory to oppose the "known" to an unknown "conscious something," and thus the problem of knowledge, as stated by M. Remacle—*i.e.*, the problem of the conformity of a cognition with a thing-in-itself—is an absurdity.

Let us refer once more to the profession of faith of that extreme idealist, M. Louis Weber, when he refuses to distinguish real being from logical being. "We constantly fall into the illusions of a naïf

realism, when we confer on all things an existence that is distinct from and independent of the notions we have of them. . . . Men have always believed in the apprehension of an ultimate reality, existing in itself and by itself, and in distinguishing it by an *extra-logical* existence—*i.e.*, an existence outside of the judgements in which it was affirmed as the logical subject of the verb to be. . . . But extra-logical reality is only a word that conceals a self-contradictory concept. . . . To say that the real is inconceivable, unnameable or ineffable, is still saying too much, for by thus determining it in what is, indeed, quite a negative manner, we still affirm it positively and make it participate in being. The real ought never to be given as object."

This is the suicide of reason. It has been said that idealism leads to solipsism. But that does not go far enough. For here the Ego itself founders, states of consciousness disappear, and the real is annihilated in " logical " being.[1]

In such conditions, is the mental life worth living ? Would it not rather be the wise man's ideal to wither up and become, as Aristotle puts it, a " stump," ὅμοιος φυτῷ, without thought or feeling ?

[1] The most indubitable of all propositions concerning existence is that which affirms existence in general. There is no doubt that something exists, for if we suppose that nothing exists, this very negation of existence implies an affirmation of the existence of the negative proposition itself.

Existence thus given absolutely and without any determinate content, refractory to all negations because it embraces them all, revives whenever we turn back upon self, and whenever we judge our own judgements, and it is logical existence or being. The two terms may be used interchangeably.—*Revue de métaphysique et de morale*, November, 1897, p. 682.

The consequences of this argument cannot be avoided, and M. Weber himself admits that if, in practice, one is driven to make a concession to realism, and to speak of the real as if *it existed*, it must be done at the expense of a compromise between logic and absurdity. The necessity of living and acting compels thought to be the indefectible auxiliary of life and action; but, as this writer grandiloquently remarks, the evident illegitimacy and illogicality of this practical position are enough to secure for idealism its full rights in the world of theory and to maintain its indisputable truth in that sphere.

But, unfortunately for this theory, it not only works inconsistently in practice, it is also illogical in itself. For whence comes the concept of the real, if the real is non-existent ? Consequently, whence comes the idea of denying realism in favour of logical idealism, if logical being is all that is presented to the mind ? Will it be replied that the real means the negation of logic ?

But it is the contrary of this that is true. Directly, we only perceive what is real. The act of perception and the logical existences to which it gives rise demand, in order to appear to the mind, a second mental process following upon the first. A stroke of lightning pierces the clouds, and I perceive it: that is the first act. Then, I perceive that I saw the lightning flash: this apperception is a second act which only became possible after the first and depended upon the first. Therefore, the existence of a logical affirmation is not directly knowable. It can only arise in the second place, and hence it

is not the concept of some logical existence that could cause a contradictory concept of the real to arise in the mind, but on the contrary the real which, by a process of negation, leads on to the concept of logical being. Indeed, the latter is defined as an existence which is neither realized nor realizable in nature.

Thus logical idealism only requires to be stated to be disproved. It affirms that logical being alone is conceivable, and denies the conceivability of the real. But the conceivability of logical being is only intelligible subject to the conception of the real which it denies. It follows that the statement of logical realism cannot be discussed. It means an unintelligible battle of words.

The etymology of ideological speech confirms this conclusion.

Connaître (English *cognition*), from *cognoscere* (*γιγνώσκω*, from *γίγνομαι*, *to be born*), is connected with *conceive, concept, conception,* and with the root idea of bodily generation.

To apprehend, comprehend, perceive (*percipere,* from *capere*), are borrowed from the sense of touch. The Latin verb *cogitare,* whence the word *cogitation* (from *cum* and *agitare,* frequentative of *agere*), betrays a similar origin. *To think* (English word *pensive*), *penser* (*pendere, pensare*), etymologically signifies *peser* (*to weigh*); *to abstract, abstraire* (*ab* and *trahere*), is equivalent to *extraire, to extract; to reflect, réfléchir* (*re* and *flectere*) signifies *to bend back.*

To judge, juger (*judicare, jus dicere*), comes from a Sanscrit root *yu,* which means *to join, to bind.*[1]

[1] Max Müller, *Science of Thought,* p. 390, Longmans, 1887.

To discern, discerner (from *cernere*, from *circinus*, from *circus, circle*), to surround with a ring, to set apart into separate spheres.

Envisager (*to look at the face*), *considérer* (from *sidus, star, to look at the stars*), are borrowed from the sense of sight.

To know, savoir (*sapere*), is taken from the sense of taste.

Intelligence (*intelligere*, from *inter legere*, to choose amongst many things) denotes a selection amongst sensible things.

We might follow out this nomenclature indefinitely, but these few specimens of the sensible origin of our ideological notions are enough to confirm our conclusion, that outward idealism leads on to "inward" idealism, and the latter to "logical" idealism, the statement of which destroys itself.[1]

Another consequence of idealism is the inevitable negation of any distinction between logic and truth, between illogicality and error.

If the human mind knows nothing but its own ideas, it may very well be logical or illogical—*i.e.*, in accord or in disaccord with itself in the association of its ideas, judgements, and reasonings—but the question of the harmony or want of harmony between its perceptions and some objective reality that they mentally represent becomes meaningless. We should thus be driven to strike out of our speech any expressions that reveal any opposition between exactitude or logical correctness and truth.

[1] See the passage quoted, p. 93, from Herbert Spencer, showing that idealism is necessarily buttressed by realism.

Underlying idealism there is a defective interpretation of the data of the problem of certitude.

We have already remarked that Descartes concentrated his attention upon the problem of existence, and did not directly endeavour to justify the value of the abstract principles on which the rational sciences depend, and upon which even the experimental sciences, as well as our daily judgements, must be founded. But, in the Cartesian psychology, the problem of existence was stated in a way which we regard as fundamentally unsound, and hence arises, in our opinion, the essential fault of idealism.

It is commonly said that truth is the conformity of thought with things, and by the word " things " is meant *things-in-themselves*. To know that one knows the truth, is therefore to perceive the conformity of a perception with a *thing-in-itself, absolutely*.

Now, *What is the critical problem in essence ?*

Its purpose is to ascertain whether man's mind is able to know the truth.

Therefore, according to the conventional notion with which we began, the critical problem essentially consists in ascertaining whether man's mind can see the conformity of its perceptions with the things it regards, not relatively to itself, but to their absolute state.

What has been done towards solving this problem ? On the one hand, it has been assumed that there is *pure reason—i.e.*, man's mind considered in itself, so conditioned *as to make knowledge possible*, and that before any putting into act of its cognitive powers. On the other hand, it has been assumed

that there is a *thing-in-itself*, apart from its relations with the cognitive powers of the mind. Then the question has been asked, how far the act of the cognitive powers could represent the *thing-in-itself*, *das Ding-an-sich*.

Well, it is this very problem itself which is meaningless. It is so in two ways. It is meaningless, first of all, because to wish to judge of the power of the mind without exercising the mind is to require what is impossible.

To estimate a man's muscular powers, we make him exert them and then use a dynamometer. To estimate the cognitive powers of the understanding, the latter must be brought into play in an act of cognition. For no power can be estimated directly, as power in itself. It can only be estimated in act, for therein it stands revealed, but in itself it is essentially unknowable.

Kant's fundamental mistake lay in imagining a "pure reason," the laws of the action of which were to be ascertained by an analysis of the reason itself, prior to the acts whose principle or seat it was to be. A "transcendental" critique of such a kind is radically impossible. To hope to solve the problem of knowing the truth by an analysis of the metaphysical conditions *of the possibility of knowledge* is a chimera. Our cognitive faculties are in the same position as man's moral consciousness. *Ex fructibus eorum cognoscetis eos*, says the Gospel. The tree is known by its fruits.

The claim to make the critical problem consist in comparing the cognitive power, apart from all cognitive acts, with an absolute thing-in-itself, is

meaningless for another reason. A thing-in-itself, *i.e.*, a thing assumed to exist, but without any relation to the subject meant to know it, is a pure nullity to the latter.

How can an act of cognition be compared with simple nothingness? How can one judge whether there be conformity or disagreement between a cognition and that which is nothing at all, so far as the knowing mind is concerned?

The question is quite unintelligible. The *indispensable* condition for confronting a thing with any cognition of it—for instance, a material something with my cognition of that something—is that it become an object *present to the knowing mind*. The word *object, ob-jectum*, is significant from this point of view; it designates not simply what is given, but what is given *over against* (*ob*) the subject. It therefore shows the thing already put into relationship with the knowing mind.

Given this relation, reality comes within the domain of knowableness. Cognoscible reality is what metaphysics calls *ontological* truth.

When, owing to a prior subjective apprehension of the knowing mind, reality has become a reality present to the knowing mind, and consequently, a knowable reality, ontologically true, then, and then only, it *can be represented*.

Indeed, the knowing mind is constantly subject to innumerable stimuli. The stuff of the brain is extremely mobile. Hence the first subjective presentation is not fixed once for all, stamped in a final shape, but it is diffused, and provides the knowing mind with several objective aspects which it can

grasp one after the other. Every side of this scattered whole then becomes the relatively simple object of a fresh apprehension. This diffusion or scattering of the object apprehended, we call the manifestation of the ontologically true, or technically, *the evidence of truth*.

When the object of a first concept has thus diffused its content and provided matter for fresh representations, the mind sees before it two objective terms that can now be compared (*compar, par* indicating the quality of the terms, *cum* their simultaneity in the mind of the subject), a comparative act between them becomes possible. There are two objective terms that can be referred to one another, and which are able to be identified or are not able to be identified.

The object of the first act of apprehension contained matter for such reference, but only contained it *implicitly*. Its development, what we have called the diffusion of this content, renders the formulation of the reference formally possible, and the formulation of the reference we call a *judgement*.

Therefore, to judge is to state expressly that an object represented to the mind is altogether or partly identical with an object previously presented to the mind.

The object of the act of representation is called the *predicate*, and that of the previous apprehension is called the *subject*. Thus, judgement is the mental act which refers one or more predicates to a subject given in the mind. The reference expressed by the judgment states that a predicate belongs or does not belong to the subject. The judgement is *true*

when the reference as to this relationship is stated in conformity with the requirements of the content of the first apprehension, with the ontologically true; it is *false* when the statement of the judgement is not in accord with the requirements of ontological truth.

To put the matter more shortly, the truth of a cognition or logical truth is the accordance of knowledge with ontological truth, and logical error is the disagreement of knowledge (cognitions) with ontological truth.[1]

The *critical problem* is that which has to do with the existence or non-existence of logical truth. It therefore consists in taking as the object of reflective consideration a primary spontaneous judgement, for the purpose of seeing whether it possesses logical

[1] Let us illustrate these abstract considerations with a concrete example. Their criteriological importance justifies our dwelling upon them in this manner.

Suppose a whole divided into parts. Neither this whole in itself, nor the same whole as apprehended by a primary act of mental representation, is true or false.

But suppose the whole is broken up, and that it reveals to the mind what it is, and that by a second act of apprehension the mind represents it to itself afresh, either as a whole, or in part. Henceforward, there are in the mind two terms referable to one another; then the reference becomes possible, and must be made. The whole divided into parts (the term of the primary act of apprehension) is identical with the same whole, the collection of the divided parts (the term of the second act of apprehension); or, more simply, the whole is identical with the sum of its parts. On the contrary, the divided whole (the object of the primary apprehension) is not identical with the same object regarded in each of its parts; or, the whole is not identical with any single one of its parts. The two references, one of identity, the other of non-identity, the two ontological truths, call for two mental acts, one of composition, the other of division, for two judgements, one affirmative, the other negative.

truth or not, or, which comes to the same thing, for the purpose of ascertaining whether the statement of the judgement agrees with the requirements of ontological truth materially contained in the object of the mind's primary act of apprehension. The consciousness of ascertaining the logical truth of its judgement gives the mind the contentment which arises from the satisfaction of its natural desire for knowledge, and which is called *certitude*.

This analysis shows the two ontological conditions of the possibility of certain knowledge, conditions which the originators of the idealist philosophy have failed to understand.

They thought they could set over against the real in itself a subject capable of representing it, and then analyze the mental structure of the subject, and consequently say whether such representation was or was not a faithful expression of absolute reality. This attempt has been proved to be an intrinsically impossible one on two grounds.

The representative power is only knowable by

The whole in itself makes the object of a primary mental representation; the sum of the united parts, seized in the scattered whole, makes the object of a second mental representation; the relation of identity between the two objects is an objective or ontological truth; the intuition, and consequently, the affirmation of this truth, is a judgement logically true.

Thus the Scholastics were right in saying that logical truth is to be formally found only in the judgement. And, as a matter of fact, common sense agrees with this doctrine. The words of a dictionary, which are the expression of a simple conceptual apprehension, are not regarded by anybody as true or false. Truth and error are attributes of the proposition. Περὶ γὰρ σύνθεσιν καὶ διαίρεσίν ἐστι τὸ ψεῦδός τε καὶ τὸ ἀληθές. *Circa conjunctionem et disjunctionem falsum et verum est.*—Aristotle, *De Interpretatione*, c. 1.

means of the act of representation in which it is exercised. The thing-in-itself, taken absolutely, is a nullity so far as the knowing mind is concerned. Thus, the problem of knowledge, as stated by the idealist, is doubly insoluble.

Thus, too, the criticisms directed by idealism against the possibility of a knowledge thus disfigured miss the mark, but it is easily seen that they do not affect a more accurate theory of the certainty of knowledge.

The essential condition of the possibility of a problem of knowledge is, as we maintain, the presence in the mind of two concepts, the results of two successive acts of apprehension. The judgement that unites these concepts, affirming the belonging or the not-belonging of the second to the first, of the predicate to the subject, is the sole act that can be true or false.

Since the judgement may be true or false, it demands a check. This check, the exercise of which presupposes what Montaigne called a " judicative instrument "—*i.e.*, a means of distinguishing between the true and the false, in a word, a criterion of truth—this check is the whole object of the critique of knowledge.

But criteriology gives rise to two essentially distinct problems with regard to this subject.

Has the act whereby the synthesis of the predicate with the subject is effected for its determining cause an entirely *subjective* law of thought, or is it brought into play by an *objective cause* acting upon the mind ? And is this act a *synthetic judgement a priori*, as Kant maintains, or is it an

act of perception and assent *arising from* the evidence of the objective connection of the predicate with the subject ?

Such, in brief, is the statement of the *first* problem, that of the subjectivity or objectivity of the act of judgement.

Let us admit that dogmatism is right, and that the objective value of principles is certain. Then, the principle of contradiction—for instance, " a thing cannot both exist and not exist "—and the principle of causality, " the contingent must depend upon a cause "—afford guarantees for real certitude.

But the application of these principles to the facts of experience gives rise to a *second* problem which is essential to critical philosophy.

We have remarked that the most pronounced idealists confess that they experience a necessity which they did not themselves originate, something that they inevitably undergo, and which, like everyone else, they are driven to call, *reality*, *experience*. Is there anyone in all the world who dares to maintain that the pain of toothache is, strictly speaking, no more than a mental representation ?

Plainly, No. However much one might wish it were so, one could not assert it with sincerity. But, if the mind, or that other part of ourselves which we call the body, has a passive sensation of an impression experienced, there must be an active cause that gives rise to the impression; and if this cause is not the Ego that feels it, there must be a non-Ego, an external world.

Hence if it can be shown that the object of our concepts is taken from realities which outward

or inward experience makes us feel, it is established that our concepts have not only a simple phenomenal objectivity, but that they are endowed with objective reality.

And this is the *second* problem which is essential to critical philosophy.

Here we stop short. Our aim was to criticize the principle underlying contemporary idealism. The positive work of defining criteriological problems more explicitly and of finding out a solution of them, we shall endeavour to carry out elsewhere.[1]

[1] Mercier, *Critériologie générale de la certitude*, 5th ed., Louvain, 1906. In this edition we deal with the criticisms made by Dr. Medicus in an article in *Kantstudien* (1902), entitled, *Ein Wortführer der Neuscholastik und seine Kantkritik*. As to our point of view and the notion of truth upon which the work is founded, see many discussions in the *Revue néo-scolastique* (1895, 1899, 1900).

CHAPTER VI

CRITICISM OF THE PRINCIPLES OF MECHANISM

To-day the *materialistic* mechanical theory (Mechanism) is done with.

We have already referred to the solemn protests of Dubois-Reymond at the Congress of Leipzig in 1872; we have seen the spiritualist (idealist) reaction of Durand de Gros, Fouillée, and Wundt, and noted the avowals of Herbert Spencer himself on the subject.

The leaders of contemporary psychology agree in saying "that it is impossible to reduce, by means of successive identifications, psychology to physiology, and the latter to chemistry or physics, and these in turn to simple changes in space, to movement and extension."

In spite of this, materialist ideas are always floating in the air, and many scientists and philosophers have come to Herbert Spencer's vague state of mind, in which he declared that among the primary facts of evolution nothing could be admitted except "molecular attraction and repulsion," and, on the other hand, that between the phenomena of consciousness and material facts

"no community of nature was visible or conceivable."

This may be put into the following terms: that materialism is an arbitrary, and even unintelligible hypothesis, but it is a necessary consequence of science, which to-day is one with the mechanical theory.

Is it true that science must be on the side of Mechanism? How can such an allegation be justified?

The dogmas of the mechanical theory are the two following: the phenomena of matter, if not all the phenomena in the world, are modes of movement; there are efficient causes only; there are no final causes in nature.

The first proposition rests upon the discoveries of thermodynamics; the second owes its vogue to the physics of Descartes, the sarcasms of Bacon, and the theories of Darwin. Let us make a closer examination of them.

Mechanism and Physical Science.

Thermodynamics does not justify the mechanical theory.

No doubt, if the world of matter consisted solely of a system of moving bodies, there would be in reality nothing but mechanical actions. The physical and chemical forces would be, indeed, mechanical forces, and therefore it would not be hard to understand that their interplay must be governed by a general law of mechanical equivalence. The New-

tonian law of the equality of action and reaction would be synonymous with that of mechanical equivalence. Then, urged on by our inclination towards unification and simplicity, we should extend this mechanical notion to living organisms, and we should get the plant-machine, the animal-machine, and lastly the man-machine.

But this systematizing procedure cannot be justified either *a priori* or *a posteriori*.

It cannot be justified *a priori ;* for who dares to tell us that he feels bound to interpret " the mental processes by means of the mechanism of the atoms of the brain " ?[1] " That he can even conceive the possibility of reducing *quality* to a simple form of quantity " ?[2] " That he perceives an identity of nature in physical occurrences and facts of consciousness " ?[3]

No; according to the sincere admissions of its warmest advocates, a universal mechanical theory is unintelligible. Yet what matters this, if it be scientifically proved ?

But is it scientifically proved ? Doubtless, in nature all forms of bodily energy are exchanged for one another. Indubitably, too, the play of mechanical forces is subject to the law of a strict equality of action and reaction.

Now, it has been established, if not quite rigorously, at any rate precisely enough for practical certainty, that the mechanical equivalent of the heat unit is about 927 lbs. Hence there are at least two forms of energy, heat and mechanical

[1] Dubois-Reymond, see above, p. 74.
[2] Fouillée, see p. 75.
[3] Herbert Spencer, p. 77.

energy, which have an equivalent exchange-value.

Weber and Helmholz proved that the conclusions of thermodynamics are applicable to electricity, the volt-unit being equal to twenty-three heat-units. Thus science tends to generalize the application of the law of mechanical equivalence to the various forms of natural energy. It also tends to regard all the systems of natural forces as *conservative*—*i.e.*, as verifying the doctrine of the conservation of energy.

No doubt, the experimental verification of the doctrine is not strictly accomplished, either in the case of systems of terrestrial forces, or still less in the case of the whole universe.[1] It does however

[1] The theorem of the conservation of energy, regarded in the broadest manner, may be stated as follows: " In any shut-off or isolated system, *i.e.*, on which no external force, whether mechanical, calorific, electric, etc., is exercised, the sum of energy is invariable, but on condition that in the cinematic energy there be included not only that which corresponds with the visible rates of movement of the different points of the system, but also that which arises from the invisible movements to which the heat or light of the system is attributed, as well as the electric currents, etc., running through it; it is on condition also of comprehending within its potential energy not only what arises from mechanical action ordinarily so regarded, but also that which may be due to electrical tensions, chemical affinities, etc."—Appell, *Traité de méchanique rationelle*, t. ii., p. 123, 1896.

But, says the learned M. Pasquier, it is not proved that all systems of earthly mechanical force are *conservative*. We are certainly inclined to believe, he says, that most natural forces (gravitation, molecular forces, and the forces of heat, electricity, and magnetism, etc.) are of such a kind that the doctrine of the conservation of energy applies to them. . . .

" Nevertheless," he continues, " we do not think that the present state of knowledge allows us to affirm, as most

apply to the forces of inorganic or organic nature with sufficient probability to be regarded without rashness, as established.

Let us, then, take it as an established fact, and ask whether the mechanical theory of philosophy is a necessary or legitimate consequence of the present state of natural science.

We say, No.

Movement is the general condition of the action of material bodies. It is, indeed, shown by experi-

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authors do, that all terrestrial forces are certainly of such a kind. Consequently, in our opinion, it is not certain that the doctrine of the conservation of energy can be applied to any earthly systems. Indeed, there are certain forces (the friction of solids with solids, liquids, or gases, the resistence of media, the electro-dynamical laws of Weber, Gauss, and Riemann) which, in appearance at any rate, are the functions of various rates of speed.

" While admitting that these forces are but little known, we do not think that it is proved that, in the last analysis, they are, like the rest, exclusively functions of distances. Having regard to our ignorance as to these rather obscure laws of earthly mechanics, we prefer to take our place in the ranks of those who reserve judgement. . . ."

If we have to be prudent in applying the doctrine to our own earth, still greater reserve is needed, in M. Pasquier's opinion, in applying it to the entire universe.

" First, science is still a long way from having given us a knowledge of this universe as a whole. We are scarcely beginning to have some idea of the motion and constitution of the stars and the nebulæ. Further, we think, with M. Duhem, that metaphysical reasons alone would suffice to make us doubt the legitimacy of making such an application of the doctrine; for, even if metaphysics could prove that the universe is quite limited, it is certainly powerless to determine the conditions of such limits. Can it, for instance, affirm that they can be assimilated to surfaces impermeable by heat ? Yet this is an indispensable condition for regarding the total work of external forces beyond the limits as perpetually of no account."—Pasquier, *Cours de mécanique rationnelle*, Section 3, pp. 78-89-90.

ments that bodies only act upon one another in a sensible manner when they are within definite appreciable distances, and the intensity of their reciprocal action depends upon such distance.

Hence the movement that brings two bodies nearer to one another is a condition, either of the calling into play, or of the intensification, of any material force. *A fortiori* is movement an indispensable condition of the interchange of material forces, if, as experiments prove, these bodies only act by means of contact?

Even the highest forms of natural activity, such as that of thought and rational will, are not carried out without the assistance of material forces subject to this law of contact.[1]

Therefore, to bring experience into harmony with the laws of mechanical physics, it is not necessary to admit that physical, chemical, biological phenomena are identified in every way with mechanical phenomena; it is enough to acknowledge that material forces do not act unless they are accompanied with movement. Facts, if wisely interrogated, prove no more than this. "The most superficial study of facts," wrote Hirn in 1868, "teaches us that the phenomena of light, heat, and electricity, may be substituted for one another, and make reciprocal exchanges; that they are related to one another as equivalents; that, when one appears to vanish without giving rise to some working or motion in a material body, it gives rise to another phenomenon of the same class. These

[1] Cf. Mercier, *La pensée et la loi de la conservation de l'energie*, p. 8.

facts have been admirably investigated of late, and they have also been classed and co-ordinated in the most methodical way by many physicists; let me mention, for instance, Grove's fine book. Not one of these facts, not even the most unimportant of them, enables us to affirm or deny that light, heat, and electricity, must be referred to one and the same principle. All, without exception, lead on to one and the same final conclusion: Reciprocal relationship, substitution subject to a law of quantitative equivalence, to a higher law of equilibrium. *Nihil ex nihilo ; nihil in nihilum.*"[1]

The proposition which has become a commonplace in popular scientific publications, that *natural forces may be reduced to motion*, thus calls for a distinction.

The exercise of natural forces requires motion. Hence these forces always have a mechanical aspect, and consequently the intensity of their action is calculable in terms of mechanics: this proposition is an expression of fact in each one of its parts. Also, we must add that the motor phenomenon which accompanies the exercise of natural forces cannot be called *a* or *the* motion, except in a generic sense. In reality, it varies according to the physical or chemical phenomena which are brought into play. Sometimes the motion consists of the undulations of elastic molecules of ponderable matter, *e.g.*, as in acoustics; sometimes of vibrations of ponderable matter, as of ether; this is the case with

[1] Hirn, *Analyse élémentaire de l'univers*, Paris, 1868. Cf. De San, *Cosmologia*, Lovanii, 1881, pp. 339 *ff.* Also, Nys, *Cosmologie du monde inorganique*, 2nd ed., Louvain, 1906, pp. 140-164, 350 *ff.*

the phenomena of heat, light, and electricity. In chemical phenomena, the motion arising from the intervention of physical forces is variable. Hence, in nature, there is not *pure* motion or movement, there are *motions* or *movements*.

But the essential criticism of the proposition, that *natural forces may be reduced to motion*, is drawn from the very analysis of motion.

Motion or movement, as such, is only *the succession of different positions* taken up in space by something that moves. Movement, as such, is not an action, not even such a borrowed action as we call *communicated*, and such as the ancients designated by the words *ab extrinseco*. But, can it be admitted that that which is not an action constitutes of itself the inmost substratum of all the modes of exercise of material forces ?[1]

Clearly not. Besides, when men of science talk of *movement*, they use the word in two very different senses. Sometimes they mean by it movement properly so called—*i.e.*, local displacement, the series of successive positions occupied by a moving object; sometimes the *active impulse* that enables one body to act upon another—for instance, light or heat to act upon our organs of sense. But this impulse *qualifies* the agent to which it belongs, and it is a *quality*.

Will it be said that this quality, this *impelling nisus*, is only a motive force ? Suppose that it was so, even then it would be established that sensible nature cannot be reduced to motion, in the strict

[1] Boutroux, *De la contingence des lois de la nature*, 2nd ed., Paris, 1895, pp. 63 *ff*.

sense of the word, but that it is endowed with *forces*. From the diverse changes undergone by the recipient of the impulse, one might infer the diversity of the impelling *forces*.

Would it then be legitimate to infer, on scientific grounds, that the diversity of the latter is exclusively quantitative and mechanical? No. These active forces produce motion, therefore they *are motive forces;* but there is nothing in experience to justify the statement that they are *motive forces and nothing else.*

We know that it is a commonplace with many scientists to lay down the principle of the unity of physical *forces*. And hence follows both the identification of these forces with mechanical force and the entirely mechanical interpretation of the law of the conservation of " force."

But this doctrine has in its favour neither observation nor the general support of scientific men of eminence.

Lange, the celebrated historian of materialism, makes an explicit avowal of it. The interpretation of the law of the conservation of energy in the sense of the mechanical theory is not a scientific conclusion, " it is only an ideal of reason." The inner nature of matter and of force, he says, escapes the notice of the man of science; the problem to which it gives rise depends upon the theory of knowledge.

We will quote the learned German in full, because his avowal shows that no more than observed fact can the authority of thinkers be quoted to prove that the primary dogma of materialist philo-

sophy is worthy of being regarded as a scientific theory:

"The law, now looked upon as so important, of the conservation of energy, may be expanded in different ways. Thus, first one may admit that the elements of chemistry have certain invariable properties, along with which the general machinery of atoms co-operates to give rise to phenomena; next, one may also suppose that the properties of the chemical elements are themselves nothing but determinate forms of general and essentially uniform material motion. As soon as chemical elements are regarded as simple changes of some primary and homogeneous matter, the latter hypothesis is easily understood. But it must be acknowledged that the law of the conservation of energy, as interpreted by this most rigid and logical theory, is very far from being proved. It is only an 'ideal of the reason'; but since this ideal is the supreme end of all empirical investigation, we could scarcely leave it on one side."[1]

Mechanism and the Doctrine of Final Causes.

We have remarked the powerful reaction against the systematic exclusion of final causes in nature. Schopenhauer's "will to live," the "idea-force" which Fouillée identified with appetite, and Wundt's "voluntarism," are so many indications of a return of philosophy to finality. The neo-Kantian

[1] Lange, *Histoire du matérialisme*, French translation from the German, II., p. 229, Paris, 1897.

movement, now so active in France, corresponds with an analogous tendency.

One of the most prominent men in Germany, Professor Paulsen of Berlin, is quite to the point in denouncing what, along with the naturalist von Baer, he calls "teleophoby," and does not shrink from saying that the finalist view is the most important view in the study of nature.[1]

In the same way, in France, M. Emile Boutroux of the Sorbonne has long been an opponent of the extreme tendencies of mechanical determinism. He does not admit that it is true that necessity rules supreme in nature, since experience proves that there is a certain amount of contingency in the succession of phenomena, which, according to him, is the sign of a certain degree of spontaneity in beings, and consequently, of the finality which governs them.

"Beings of all classes," he writes, "have an ideal to aim at, and, for that very reason, there must be in all of them a certain amount of spontaneity, a power of change that is proportioned to the nature and value of their ideal. . . . The ontological order, or causal connection of phenomena, contains the true causes or metaphysical powers that give rise to the world's changes. . . . Hence contingence rules up to a certain point in the series of determining causes. . . . It is finality itself that implies a certain amount of contingence in the succession of phenomena."[2]

[1] F. Paulsen, *Einleitung in die Philosophie*, S. 224-239; *Kausalität und Finalität*, Berlin, 1896.

[2] Boutroux, *De la contingence des lois de la nature*, pp. 143, 167, 168. Cf. *De l'idée de loi naturelle*, Paris, 1895.

For M. Boutroux, the question of ascertaining whether finality can be discovered in nature therefore amounts to ascertaining whether there is any place for contingence in the succession of phenomena; and inversely, mechanical determinism finds its expression and its proof in a world ruled by uniformity and by necessity.

This does not appear to us to be an accurate definition of the problem of finality.

It is true that liberty (free will) and spontaneity imply a certain amount of contingence. For, by definition, liberty means the power of choosing a means which is only contingently connected with the end willed by the free agent. Spontaneity is the pursuit of a wished-for good, and therefore of a known good. Hence it is not subject to the iron laws of mechanical determinism, but follows the capricious influences of feeling induced in the subject by an individual—and therefore relative—appreciation of outward realities.

But, even if there were no agents endowed with free will and spontaneity, the problem of final causes would still exist.

"Teeth grow under the dominion of necessity," said Democritus. "The front teeth are incisors and fitted to tear things to pieces, the molars are flat and useful for crushing foods. What is there in all this to make us discover an end pursued, and not a mere coincidence? In a general way, wherever a final cause appears to govern a concurrence of things, we have only to make one. Where things have coincided just as if some intentional adaptation had brought them together, the effects are sure,

because chance has endowed them advantageously for enduring; on the contrary, where the concurrence is not so lucky, the results have disappeared and are disappearing, as Empedocles said was the case with monsters which were half-man and half-brute."[1]

This is Aristotle's summary of the old statement of mechanical determinism and the problem of finality. From Democritus to Darwin the essential terms of the argument have not changed. In nature there are favourable factors, such as the shape of the incisors for tearing to pieces and that of the molars to crush; and these are the effects of efficient causes. Must they also be regarded as cases of ends and means?

No doubt, they are effects, the last terms of a series of antecedents and consequents. This is not denied by the finalists. But the point in dispute is, to ascertain whether efficient causes *alone* are enough to explain nature as a whole and from every point of view.

It is not a case of presenting an ultimatum to the finalist by saying: Well, there are your incisors; why do you wonder at their tearing things to pieces? There are your molars; why wonder at their crushing things? Your bird has wings; of course it uses them to fly. Your eye is so made as to see the light, and there is light; so your eye must see it. Wherein lies the mystery, then? And what do you gain by saying that the incisors are made to tear to pieces, the molars for crushing food, the bird's wings for flying, and the eye for seeing the light?

[1] Aristotle, *Physics*, II., Ch. VIII.

No, the finalist is not driven to choose either efficient causes or final causes as alternatives. He admits, like the mechanical theorist, the causal action of antecedents that effect consequents; but, he adds, is there not such and such an ordered whole of consequents as could never have occurred without the effect being the end for the purpose of which nature has arranged the action of the antecedents ?

Apparently, there is no *a priori* reason why the seventy-five simple elements of chemistry should combine into more and more complex compounds in such a manner as to produce an albuminoid molecule at the right moment, and then a considerable blending of heterogeneous albuminoid substances into a combination of protoplasm, to give rise to cellular organisms, and finally to osseous structures so arranged on the one hand and on the other, as here to crush things in a jaw, there to form contractile muscles in a bird's wing, or lastly, the infinitely complex visual apparatus, which we call an eye.

Indeed, there is no wonder in an animal devouring and crushing its food when it has teeth, in a bird flying when it has wings, in an eye seeing, since it can see the light and light is there to be seen; but what is more or less disconcerting to the mind, when it is unable to go beyond the notion of mechanical causation, is this: that chance events should be able to produce an incisor or a molar, a bird's wing or an eye.

All the materials for building an edifice exist in nature. Why do they never happen to make a

palace by fortuitous concurrence? Gold, silver, and copper exist in nature. How is it that the atoms of such metals never fit together of themselves in such a way as to make a clock?

When we see heaps of stone and sand and mortar, we do not hesitate to say that the building, near which we see them lying, is the work of hands directed by intelligence. When pieces of metal are made into a clock, who doubts but that some intelligence has intervened, and that intentional adaptation is displayed?

Why should those natural palaces which we call birds' nests, ant-hills, and other wonders of nature, escape the law of governing thought and final purpose? Why should those pieces of mechanism that are so well adapted to their functions, and which we call organs in living animals, be so easy to explain without purpose, when we cannot explain the works of man without it?

"If nature had to build houses," says Aristotle, "it would only have to act in the same way as our architects and masons. And inversely, if art or industry had to copy the various works of nature, man could only imitate the procedure of nature. Therefore it is legitimate to attribute to nature the finality (purpose) we find in man's works, and *vice versa*."[1]

What, then, is a final cause? It is not a *force* superadded to efficient causes for the purpose of explaining what, in a given case, could not be attributed to antecedent causes. "When actual and accurately observed facts suffice," says M.

[1] Aristotle, *Physics*, II., Ch. VIII., 4.

Boutroux, "to explain a phenomenon completely, its explanation is causal. When the actual facts do not suffice, and when we must appeal to something hitherto unrealized, hitherto non-existent, something that will perhaps never be fully realized or which is not likely to be so in the future, and which therefore appears to be possible only, the explanation is of a more or less final character."[1]

We greatly fear that such a manner of speaking makes for ambiguity. A final cause is not "something not yet existing," for how can anything non-existent act, "be a cause?" Such a definition of final causes is at most only applicable to the *extrinsic* ends that the supreme "Governor" must have had in view, in order to govern the harmony of creatures in the whole universe. The true final causes for which Aristotle contended in his *Physics* are *internal* final causes, *immanent* in the things of nature.

Descartes and Bacon only knew of extrinsic final causes, and it was an easy matter for them to scoff at them. Leibnitz made his final causes substances, and consequently came to grief over the same difficulties as his rivals. We must go back to the Peripatetics to get a true notion of the immanent finality of nature. This immanent finality is an *underlying impulse* that directs every being's activity. In reality, it is of the essence of being, but it is this essence regarded as tending entirely towards a term which is its end. In virtue of this final inclination, *appetitus naturalis*, being, *which is one*, acts through all its powers or faculties, towards the end ordained for its activity.

[1] *De l'idée de loi naturelle*, p. 97.

The principal argument in favour of final causes is this, that if there were no principles of inward finality, beings and their actions would be left to chance; hence disorder in nature would be the rule and order the exception, contrarily to the evidence of universal experience.

Indeed, suppose that the innumerable elements of which the stars are formed, as well as our continents and oceans and the almost infinite numbers of species, animal and vegetable, of our earth, had inwardly no principle of stability, and that they were entirely abandoned to chance, we might still conceive that there would be a certain dynamic equilibrium set up in the universe, seeing that some such equilibrium is solely a function of mass and distance, and that the two conditions of mass and distance are inseparable from matter; but apart from this equilibrium and the uniform mechanical laws that govern it, what would inevitably become of the order of the cosmos ?

Chance may also produce order, as Aristotle rightly observes, but only exceptionally, *in paucioribus*.

Taking account of all possible concurrences of cosmic elements, the *a priori* probability of chaotic concurrences would be infinitely great, that of an orderly combination infinitely little. Anomalies and monstrosities would therefore be the rule, harmonious instances the exception. Every moment there would arise an innumerable quantity of unstable aggregates which would be disintegrated immediately afterwards. Permanent compounds would be regarded as marvels.

But what say science and experience ? Every

inorganic body submitted to observation and analysis is found to be endowed with mineral, physical, and chemical *properties* that characterize it and are discoverable in a considerable class of instances of the same *species*. The instances of each species have their *specific laws*, and, amidst all influences, some favourable and others the reverse, to which these bodies are continually subject, the mineral and chemical *species* persist.

If we take living things, the most elementary organism, even that of a cell, presents an harmonious and astonishingly complex arrangement of mechanical, physical, and chemical forces, the combination of which is indispensable to their being organized. Albuminoid substances are at least fivefold, made of carbon, hydrogen, nitrogen, oxygen and sulphur. An albuminoid molecule comprises hundreds of atoms. How complex, then, is the composition of protoplasm ? And what can be said of the cell itself, and of the differentiation of its organism ? Still more, what is to be said of multicellular organisms which have given rise to innumerable animal and vegetable species throughout the world ?

And each of these organisms in each one of its parts is subject to continual motions of assimilation or of dissimilation. The living thing grows and multiplies, and this flow of life goes on for centuries, and indefinitely, without the biological kingdom ever being invaded by disorder.

Is all this the work of chance ? It is no use to say that all this is the result of organization, for the thing we are trying to account for is organization itself, the harmonious whole appropriated to the

operation of life which it realizes, and its generalization in space and perpetuation in time.

It is of no use to say with Darwin, that circumstances happen to be favourable and organisms are adjusted to their environment and become progressively stronger in the struggle for life. In this theory of natural selection there is simply a *petitio principii*. For, how is it that the instance, which is surrounded with favourable circumstances that adapt it to its environment and strengthen it in the struggle for life, resists adverse influences of the environment, and struggles for life successfully when the dispositions, which are assumed to be indispensable for it not to succumb, are wanting to it?

Years, and perhaps centuries, are required before an accumulation of happy changes, with the help of heredity, can create an organ capable of some new, useful, or necessary function. In the interval, whence does the living thing derive its power of resistance? To resist, it must find a base of resistance. But, *ex hypothesi*, this base does not yet exist; then, how can it make resistance possible before it has come into being?

Of the harmonious disposition and the persistence of organized types, as, in a more general way, of the existence and persistence of specific types in nature, there is only one plausible explanation: that is that each one of such specific types must have within it *an internal principle of stability*, in virtue of which the elements and forces at the disposal of any given substance respectively take that direction that is demanded by the conservation and development of the whole.

Now, it was these internal principles of stability that the medieval philosophers called, along with Aristotle, *specific* forms, or specific substantial forms, of nature's combinations.

That which in the order of a being's constitution is called its specific form, is in the order of finality the internal principle which induces the being to act and to incline itself with all its powers towards the end which the Author of nature has assigned to its activity.

The principle of finality does not add a new force to efficient forces. It is not meant to explain the production of a contingent residue, which the inevitable laws of efficiency could not account for. It is the necessary complement implanted in nature itself, in virtue of which the fundamental principle of efficiency and all the forces or faculties derived from it are enabled to exert their activity.

Thus, between the efficient cause and the final cause there is a true mutual interdependence. The efficient principle is the cause of the end, and the final cause is the cause of efficiency. The efficient principle is the cause of the end, for it must be so. The end, in its turn, is the cause of efficiency, for efficiency only arises in order to realize the end. Hence it is from the end that the agent derives its power of efficiency.[1]

To deny the principle of inward principles is to

[1] *Efficiens est causa finis, finis autem causa efficientis. Efficiens est causa finis quantum ad esse quidem, quia movendo perducit efficiens ad hoc quod sit finis. Finis autem est causa efficientis non quantum ad esse, sed quantum ad rationem causalitatis. Nam efficiens est causa in quantum agit; non autem agit nisi causa finis. Unde ex fine habet suam causalitatem efficiens.*—St. Thomas, in V *Metaph.*,

condemn oneself to substitute for the rational explanation of facts a magical word *Chance*, which explains nothing; or else, it is to go back to an extrinsic Cause, and to its immediate intervention at every moment in the production of all the phenomena of things created, and of the existence and preservation of the order of nature.

These inferences are confirmed by history. The Occasionalism of Malebranche and of Leibnitz, which substitutes the immediate action of God for the action of secondary causes; Darwinian theories, renewing the theory of Chance of Democritus and Empedocles; these sprang from the antifinalist physics of Descartes and Bacon, just as an explosion arises from a heap of slowly accumulated explosive materials.

Lect. 2. See on this subject M. Domet de Vorges, *Cause efficiente et cause finale* (printed from the *Annales de philosophie chrétienne*), pp. 130 *ff.* Cf. P. de Regnon, *La métaphysique des causes*, Liv. VI., Ch. III.; and Mercier, *Métaphysique générale ou Ontologie*, 4th ed., Louvain, 1905, pp. 480-517.

CHAPTER VII

CRITICISM OF THE PRINCIPLES OF POSITIVISM

ONLY the sensible is the object of knowledge, so that for us the non-sensible must be synonymous with the unreal.

Such is the fundamental doctrine of positivists when, like John Stuart Mill, they lay down the thesis that man's mind has only one mode of thought, "the mode of thinking positively"—*i.e.*, in ordinary speech, that man can only know in one way, by the way of the senses.

The discussion to which positivism gives rise is concentrated in this essential proposition: that the sensible comprises the whole sphere of the knowable ("all our knowledge is the knowledge of sensations"); and man is, by nature, in ignorance of everything outside of the empirical order.

But this proposition is a postulate without any justification. That the primary material of all our knowledge is furnished by sensible experience, outward or inward, we are far from disputing. We have already taken care to lay down the same doctrine in opposition to the theories of innate knowledge which are derived from Descartes.

But there is no proof that the materials thus gained must indefinitely keep the characteristics of

concreteness and contingence which appertain to them in nature and in our sensational perceptions of them. Along with Aristotle and all the medieval philosophers, we venture to maintain that the empirically acquired materials are found to be subjected in us to a mental elaboration which makes us see them, apart from their particular characteristics, in an abstract condition. Every time we ask what a thing is, τί ἐστι, according to the well-known phrase of Aristotle, we try to define it by means of an abstract statement; the being that anything is, τὸ τί ἦν εἶναι, is present to the mind, in its abstract state.

Beings are arranged in *classes*, occurrences under *laws*, and *general* sciences are established, because abstract being, reflectively considered in that which in its own nature and in our sensations gives it individuality, may be referred to an indefinite series of subjects which possess, or may possess, underlying their own distinctive features, the one nature which the mind was able to abstract from them.

If positivism is right, in all this there is nothing but so many mental illusions. The notion of the abstract is a chimera. The notion of the universal is but a collective notion—*i.e.*, a limited sum of perceptions. The notion of the right (straight), for instance, or of *all* right lines would find no place in our list of knowledge. We should only know lines as determined by their concrete characters of size, direction, and material substratum, by their position in space, and by their realization in nature at a given moment.

Mathematical and metaphysical laws would be nothing but brief statements condensing a definite number of sensations and ascertained results for the convenience of memory. Demonstrative reasoning, separate inductions, would only possess a verbal value, and induction itself would only be an accumulation of experiences. Science and philosophy would thus be finally nothing but a co-ordination of empirical judgements.

But, to make a thesis out of such paradoxical ideas, they should be supported with proofs. For, before thinking that the spontaneous judgements of mankind are at fault, as Père Monsabré shrewdly observes, it is legitimate to presume that mankind is right.

Positivism has no scruples of this kind. It formulates straight away, as if it were axiomatically plain, the principle that the sensible and the sensible alone can be the object of knowledge.

But this principle is far from being clearly proved. The ideas of *being* and *corporal being* do not mean the same thing. Corporeity adds something to being which being does not include. Thus there is an intelligibility intrinsically attaching to being, quite independently of the intelligibility attaching to corporal being.

Hence it plainly follows that the intrinsic possibility of incorporeal beings cannot be *denied a priori* on the ground of the analysis of our essential concepts.

No doubt the intrinsic possibility of beings that differ from bodies can no more be *affirmed a priori ;* for, as a matter of fact, our concepts owe all their positive content to sensible experience, and sensible

experience only has to do, and can only have to do, with the corporeal. Hence we do not see any positive possibility of the immaterial, nor consequently, how it can be positively intelligible by means of some suprasensible power of intellection; but neither do we see the evident impossibility of the immaterial, and consequently, the evident impossibility of hyperempirical knowledge.

The entire discussion as to the possibility or impossibility of metaphysics depends upon this distinction.

This discussion cannot be resolved *a priori*, and it is unscientific to settle it by cutting the Gordian knot with a simple negation.

We who oppose metaphysics to agnosticism claim to start from empirical facts and to show that, even on empirical grounds, contradiction is inevitable if the immaterial does not exist. If it exists, apparently it is possible; and the rights of metaphysics are assured. Hence the positivist plea to bar discussion on the point is a flagrant refusal of justice in our case.

Whoever comes forward with proofs of the existence, and therefore of the possibility, of the immaterial, has a right to be heard. It is mere prejudice to deny him a hearing.

Besides, anyone who thinks takes a hand in metaphysics, either by way of negation or of affirmation. For, by the very fact of denying metaphysics, the agnostic implicitly recognizes the existence of the problems to which it gives rise.

Will it be said that the time for the making of *a priori* systems, after the manner of Fichte,

Schelling, Hegel, Hartmann, and Schopenhauer, is past; and that the comparison of the sustained progress of the natural sciences that investigate realities with the barrenness of metaphysics during the first half of the nineteenth century should teach us to keep clear of systems, the sole merit of which, if it can be regarded as a merit, lies in the originality of their inventors? Well, here we are all agreed.

But there are certain general problems which particular sciences do not resolve, though they lead up to them. Beyond the confines of physics and psychology there are certain ultimate questions as to the nature of matter and mind, and as to the manner of conceiving the universality of things. To such "final and universal" problems, as Paulsen rightly observes, man inevitably seeks an answer as long as he is inspired with a desire to know, and in this sense, he continues, metaphysics is immortal.[1]

The inner nature of beings, their relations in the universe as a whole, the objectivity and the genesis of knowledge, the moral import of men's action: such questions as these must always be of interest to the thinking mind.[2]

[1] Paulsen, *Einleitung in die Philosophie*, S. 46, 47.

[2] Paulsen reduces the principal metaphysical problems of to-day to the following terms:

The first general question that presents itself is that of the nature of reality. This question cannot find any simple answer off-hand, for the real is not presented to us in any uniform manner. There is visible reality, as in physics; but there is also invisible reality, as in psychology. Are there two entirely distinct kinds of reality? Can the physical kind and the psychical kind be reduced to one and the same kind?

The differences in the replies to this question result from the different metaphysical points of view, which are de-

About seventy years ago, when Hegel fell from his pedestal and was trampled upon by Schopenhauer, when "the Hegelian extreme left," represented by Feuerbach, Bruno Bauer, Max Stirner, and Arnold Ruge, turned its back upon its master, and identified the "idea" with concrete nature, just as any materialist atheist of the eighteenth

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signated by the names of *Dualism*, *Materialism*, *Spiritualism* or *Idealism*.

Philosophy always tends from dualism towards monism, and, according to the unity in which it results, reverts to a monism that is materialist, or idealist, or tinctured with agnosticism.

The second problem is cosmological or theological. It may be stated thus: What must be our notion of *the connection of things?* What is the form of reality regarded as *a whole?*

Atomism, *Theism*, and *Pantheism*, are the different replies to this question. Atomism or pluralism is not necessarily materialistic; as witness the monadology of Leibnitz, which has an idealist or spiritualist character.

But here again we find the pluralist philosophy betraying a persistent tendency towards unity. The monistic conception of the universe presupposes either a unity of plan, *i.e.*, theism, or else a unity of reality or substance, *i.e.*, pantheism.

Other problems have to do with knowledge. Underlying them are two which deal respectively with the objective value, and with the origin, of knowledge.

What is knowledge? To this first question there are the answers of *Realism*, *Idealism*, or *Phenomenalism*.

How do we come to know? To this second question we have the replies of *empiricism*, and *rationalism*.

Lastly, a final problem is that of the *moral* order. Men's actions and feelings have not all the same value. What is the supreme rule for ascertaining the value of men's actions?

Teleological ethics, which in England is called *Utilitarian*, regards as good or bad what is favourable or unfavourable to the individual or to the totality of mankind. Formalist or intuitionalist morality is represented by *Hedonism*, and it takes pleasure or happiness as the basis of morality; or by *Energism*, which makes the highest good consist in turning to the best possible account the highest capacities of man's nature.—*Einleitung in die Philosophie*, S. 48-52.

century might have done, when Buchner, Moleschott, and Karl Vogt put materialism upon the dishonoured altar of science—a superficial observer might have inferred that metaphysics had been carried away in the revolutionary whirlwind.

But this reaction only carried away what Wundt called the "fictions" of metaphysical thought. The inquiry into the fundamental problems, before which particular sciences stop short, inevitably dominates all philosophic thinking.

The unity of composition of natural beings; the ontological priority of the mental—*i.e.*, of a substratum of appetition—over physical reality, by means of the mechanism of idea-forces; the law of universal evolution, the negation of the transcendent; idealism as the solution of the problem of knowledge; the construction of morals upon the illusory notion of free will: such is the metaphysics of Fouillée, either in the form of postulate,[1] or by way of inference.

Experience requires a complement, writes Wundt.

[1] When Fouillée, who is an idealist and an agnostic in his theory of knowledge, reproaches Spencer with the transcendent character of the "unknowable," and substitutes for it a radically immanent philosophy; when he reproaches the Spencerian evolutionism with leaving behind it a dualism between physical facts and psychic facts, and opposes to it a unity of composition in beings and the boundless universality of their law of evolution, what is he doing but laying down, in his turn, the inevitable postulates of his metaphysics?

We say *postulates*, for, in reality, where is the *a posteriori* proof of the existence of all beings? Where is the *a priori* proof that all must be of the same nature (Monism), subject to constant evolution (Evolutionism), free from all transcendent influence (the philosophy of Immanence)? How judicious is Wundt in likening all these *a priori* fabrications to poetic fictions, and in returning to the solid ground of experience!

The principle of sufficient reason supported by experimental data maintains the reason in its ascent towards the transcendent, and leads it on in psychology, cosmology, and ontology, to applying the notions of unity and totality.

And is not Herbert Spencer's philosophy, which he appeared to regard as necessarily a generalization from experience, definitively a reaction against earth-to-earth positivism ?

Are not the fundamental laws of evolution, especially the law of the " instability of the homogeneous,"[1] with its rhythmical balance of association and dissociation, evolution and dissolution, and the law of the " polarity of physiological

[1] This is not the place to discuss Spencer's doctrine of evolution, but here we may note the essentially hypothetical character of Spencer's " laws." Thus writes M. Yves Delage, a French naturalist: " Biology will never be able to get anything out of these grand and sonorous formulæ, such as the *Instability of the homogeneous*. What is the meaning of such a principle ? That a homogeneous system tends to be upset and to become heterogeneous through incidental forces. Very well: but what can be made out of that ? Nothing !

" Variation, says Spencer, is inevitable because every system, even the homogeneous, is unstable. On the other hand, an egg which is not fertilized cannot develop because, being homogeneous, it is not unstable enough; it must have spermatozoid to diversify its substance, to make it heterogeneous, to destroy its stable equilibrium, and to set evolution in motion. Thus, in one instance, the effect is produced *in spite of* homogeneity: in another, it cannot occur, because of homogeneity. Thus, all depends upon the quantity, the degree of homogeneity. What degree is compatible with the production of a given effect ? The principle does not tell us. Yet this is the only thing that matters. The cause of the variation in one instance, *although* homogeneous, and of passivity in another case, *because* it is homogeneous, is quite undiscovered, and has to be found. Similar instances might be multiplied."—Delage, *La structure du protoplasma et les théories sur l'hérédité*, p. 438, Paris, Remwald, 1895.

units,"[1] metaphysical hypotheses as to the origins of things?

Is not the general conclusion of *First Principles*—"that there is an Absolute which is to us unknowable; that it is the one permanent substratum of movement, change, matter, force, and consciousness"—an attempt to answer the insistent ontological and epistemological questions, of which Paulsen recounts the formulæ?

No doubt Spencer's way of answering them seems at first sight contradictory. If, as the English philosopher tried to prove, the absolute, matter, and the Ego, are notions made up of contradictory elements; the absolute, matter, and the Ego, are intrinsically impossible; and then it is only too plain that they do not exist.

If thought is subject to the law of relativity, and the knowledge of the absolute excludes the conditions of relativity; if consciousness implies a real duality of terms, it is evident that a subject knowing itself, in its identity, as object, is something self-

[1] "*Polarity* simply means an attractive force directed in a certain manner, Such a force can only vary in strength, direction, and in its point of application. These three factors are incapable of much variety of combination. The variety of forms of crystals shows us undoubtedly all that can be expected of them. Suppose that there intervene, besides, the form assumed by the aggregate at every moment of its progressive complexity. Imagination refuses to conceive that here are to be found the elements of a variety of forms equal to the variety of organisms. Has Spencer himself succeeded in representing to himself, even by approximate analogy, the initial difference between the units of two closely-related species, which are only distinguishable from one another by a few very slight characteristics appearing at the end of their ontogenesis?"—Delage, *op. cit.*, p. 439.

contradictory, and the conclusion cannot be escaped: thought cannot attain to the absolute nor to the Ego.

What an imperious metaphysical want must have been felt by Spencer to make him affirm, in spite of the criterion of inconceivability which he had made his norm of thought, the existence of the transcendent Unknowable! And yet Spencer maintains that this transcendent *which he does not know is One;* he *maintains* that it is *permanent,* and tells us that it is *subject to the law* of evolution from the homogeneous to the heterogeneous. And unknowable matter, subject to motion; and the unknowable Ego, the subject of states of consciousness; and *God,* the unknowable substratum of all religions: these are considered to be identical. Can there be anything more inconceivable, and at the same time more arbitrary, than such an identification as this?

Does not the inward resistance that Spencer must have overcome in order to maintain the coexistence in one and the same system of thought, of so many incoherent parts, provide a striking proof that when science is pushed to its last generalizations, it necessarily leads on to metaphysics?

But is not metaphysics, even if possible, even if peremptorily demanded by the reason, even if inevitable by agnostics who practise it while they deny it, essentially of a tendency that runs counter to scientific progress?

M. Comte's three stages of theology, metaphysics, and physics are set before us. Do they not follow the path of progress? In the lives of peoples, as

in the growth of individuals, do they not correspond with childhood, youth, and full-grown manhood ?

Historically, we must make decided reservations. It may be admitted that at various historical periods, the efforts of man's mind are more or less characterized by a tendency either towards faith, or towards metaphysics, or towards sciences of observation; but it is not true, that at any period in the historic life of a people one of these tendencies excludes the others.

Who dares to deny that in Aristotle, for instance, the most perfect metaphysical intelligence was not found robustly combined with a most strenuous spirit of observation ? Did not a whole School, the glorious School of Alexandria, so remarkable for its faith, react strongly against the unscientific exaggerations of the African School, and, in the persons of the principal masters of the Didascaleon, brilliantly combine the most analytical knowledge of things with the most abstract conceptions of the world of thought ?

Were not Descartes, Leibnitz, and Newton, at the same time believers, metaphysicians, and men of science ? Nearer to our own days, did Kant and Helmholtz and Wundt cease to be scientists because they were metaphysicians ? No; they began with science, and contrary to what Comte maintains, science led them on to metaphysics.

One endeavours in vain to reconcile these facts, and a host of others, with the three " historical " stages of Auguste Comte. All that transpires from the charges of the French positivist is, that he confused " unchecked fancies " with " metaphysics," and " fetichism " with " religion."

"No doubt," writes one of our young philosophers, "with regard to the latter confusion of ideas, both religion and philosophy presuppose a belief in something that is incomprehensible and supernatural; but superstitious belief is blind, arbitrary, and generally inept, and in manifest contradiction with the conclusions of experience, which reveals a universal and constant order in the world. On the contrary, religious belief, of which monotheism is the highest expression, far from being repugnant to an order of this kind, spontaneously springs from it. . . . Since religion and superstition grow in inverse proportion to one another, it is clearly a mistake to confound them together."[1]

Then, take the case of the individual. No doubt the child believes before it has had time for personal reflection. Education and faith make the first foundation of knowledge. But does it follow that as soon as reflection arises it drives out the beliefs of education and religious faith? In order to cultivate physical science profitably, must we begin by denying the traditional stock of metaphysical teaching? Plainly, No.

What proves that these three states can coexist without injury to one another is, that they have in fact coexisted in the finest minds that have been an honour to humanity.

From the special point of view of the cultivation of the *physical* sciences, religious and metaphysical prepossessions may be harmful. In science, it is of little use to appeal to extrinsic and distant causes.

[1] Jean Halleux, *Les principes du positivisme contemporain*, Louvain, Institut supérieur de Philosophie, 1895.

The only means of proof that is strictly scientific is that which Aristotle calls the ἀπόδειξις διότι, and it consists in connecting the observed phenomena with the αἰτίαι οἰκεῖαι, the intrinsic and immediate properties of the subject.

To account for an illness by the state of one's humours or by the morbid conditions of one's temperament was not the way to practise the science of therapeutics. To indicate the bacillus that gives rise to an illness, to describe the mode of its parasitical life, the chemical reactions that it produces, the creation of toxic matters by it, and the mode of infection introduced by such matters into the body—such is the purpose of pathological *science*.

To account for the complexity of our psychological life by *indeterminate* principles concealed under the name of *faculties* or of the *soul*, is not to practise the science of psychology, but to be satisfied with mere words. It means barring the path of psychology, for the transitory satisfaction derived from such apparent solutions lull the idle mind, and hinder the pursuit of the real investigation of causes.

To put God in the place of secondary causes, as was done by Malebranche, and by Leibnitz in psychology, is to make scientific effort useless and to numb the human mind with barren belief.

And when, like the physicists of to-day, who attribute to an assumed *ether* or *ethers* the physical manifestations of heat, light, and electricity, of the nature and generating antecedents of which they know nothing, the Scholastics of the days of decadence, not satisfied with using mysterious expressions to designate the cause of which they knew that they

were ignorant, thought they were doing some good by substituting for the concrete fact that demanded an explanation the very same fact hidden beneath some abstract statement, they blocked the road to knowledge and barred all advance along it.

Auguste Comte was quite right in revolting against the religious fetichism which substituted artificial idols for the one God of reason and of reasoned faith, and against the metaphysical fetichism which arbitrarily introduced into positive science indeterminate entities, which have no connection with the facts they have to explain. His *Cours de philosophie positive* marked a return to the Aristotelian conception, which is such a strict one of science that it has never been surpassed in accuracy—a conception according to which science might be defined as "A systematized whole of propositions, either immediately or, by means of other propositions, mediately evident and certain, drawn from the nature and distinctive properties of a given subject, and enabling one to see in these properties the foundations of the laws that govern the observed phenomena."

There you have science, there is the satisfaction sought for by man's mind. All investigations that do not go beyond a statement of the fact, or its indirect and remote causes, do not get further than the preliminaries of science strictly so called.

Metaphysics itself is largely one with science in this sense. No doubt there are axiomatic propositions and certain general inferences for the discovery of the elements of which the commonest observation suffices. The history of philosophy

shows clearly enough that the finest minds in metaphysics have borrowed from facts within everyone's reach the *perennis philosophia;* but it is yet true that science is the ordinary road to metaphysical progress. Before assigning to the universality of things their ultimate causes, it is but natural to assign to the heterogeneous groups which it includes their respective immediate causes. At the end of a period such as our own, in which mechanical physics and mathematics have so largely widened their domain, in which chemistry, biology, embryology, and psycho-physics have been established, and in which so many other auxiliary sciences are assiduously bringing with them their contribution to thought—who does not dream of some genius coming to make a metaphysical synthesis of this vast sum of knowledge ?

Christian Wolf struck a mortal blow at metaphysics when he shattered the intellectual trilogy that had always been inviolably respected by the ancients. The day when natural science and mathematics were divorced from metaphysics, there remained no common language between the men specially devoted to each of them. Hence ambiguities arose; the terms used to express the most fundamental ideas, such as those of matter, substance, movement, cause, force, and energy, and many others, were used in different senses in science and philosophy. Thence arose misunderstandings which isolation accentuated, and thus men came to think, like Auguste Comte, that science and metaphysics were incompatible, and even in necessary conflict with one another.

But this supposed opposition in the tendencies

of science and metaphysics is unnatural. Particular sciences are an integral part of philosophy. Every consistent scientist must be a metaphysician in his own department.

There is only a superficial divergence between the old conception of metaphysics and the " great new special science " demanded by A. Comte for " the study of scientific generalities." " Let us be on our guard," he said, " lest man's mind end by getting lost in works of detail. Let us not hide from ourselves that this is essentially the weak side on which the supporters of theological philosophy and metaphysical philosophy may again attack positive philosophy with some hope of success. The true way to check the hurtful influences that seem to threaten the future of thought, in consequence of the too great specialization of individual researches, is evidently not to revert to the old confusion of labour which would tend to make man's mind retrogress, and which to-day has also happily become impossible. On the contrary, it consists in perfecting the very division of labour itself. It is, in fact, enough to make of the study of scientific generalizations one more great special study."[1]

Whence, then, does the disagreement between the older metaphysics and agnostic positivism arise ?

It depends far more upon misunderstandings than upon fundamental differences.

The first misunderstanding comes from the fact that a large number of the defenders and adversaries

[1] *Cours de philosophie positive*, t. i., pp. 29, 30.

of metaphysics have too narrow a conception of it. They think that it is entirely bound up with the reflective method, and consequently regard it as outside of, if not hostile to, the methods of scientific observation.

Descartes and Christian Wolf were the first originators of this unfortunate mistake; but there were many others who inherited the spirit of Descartes and Leibnitz and Maine de Biran, and were entirely taken up with criticism, and these made metaphysics consist mainly in the analysis of mind and of the thinking subject, and in an examination of criteriological problems.

No doubt, the thoughtful establishment of the bases of knowledge is a task that no philosopher of to-day can escape. Socrates, Plato, Aristotle, and the doctors of the School, peacefully enjoyed a scientific dogmatism which no one thought of disputing, and their time has gone by. Since the days of Descartes, Hume, Kant, and Hegel, the discussion of the problems of epistemology is indispensable, but it does not follow that the latter should take the place of ontology.

Metaphysics remains the ultimate science of reality, and it includes the real outside the Ego as well as the real perceived by consciousness. Epistemology, the object of which is certitude—*i.e.*, a property of knowledge—is only a part of psychology, and, *a fortiori*, a very restricted part of metaphysics.[1]

[1] The Scholastics made psychology a part of physics or of natural philosophy. Then, successively, psychology was detached from physics; next, ideology from psychology, and now criteriology itself or epistemology has not only become an independent philosophical science, but it tends to monopolize metaphysics.

A second misunderstanding has to do with the name to be given to the results of metaphysical speculation. Must we say that the object of meta physics is *known* to us ? Or must we say, with the agnostic, that it is unknown and *unknowable ?*

The object of metaphysics is twofold. First of all, it is *being conceived independently of matter—i.e.*, regarded in as general a way as possible, apart from sensible properties and from quantity in a mathematical sense. The mind thus conceives being and the attributes that are corollaries of being—*e.g.*, the one and the manifold, power and act.[1] Then, it is *being really stripped of matter.* Being conceived as abstracted from all material attributes is the object of general metaphysics: positively immaterial being belongs to special metaphysics.

In neither of these two senses is the object of metaphysics intelligible *in the same manner* as the objects of the physical and mathematical sciences.

In the physical sciences, concrete facts and sensible images; in mathematics, definite figures and symbols sustain thought; but they hinder it in *general* metaphysics, and prevent the mind from getting down to the very foundation of things.

As for positively *immaterial* being, it only comes into contact with man's mind indirectly.

Therefore, if a physicist or a mathematician think it well to take his own particular science as the sole type of man's knowledge, he will be led to conclude

[1] *Illa scientia est maxime intellectualis, quae circa principia maxime universalia versatur. Quae quidem sunt ens, et ea quae consequuntur ens, ut unum et multa, potentia et actus.*—St. Thomas, *In XII. Lib. Metaph. Prooemium.*

that a mental representation of any other kind is not worth calling *knowledge*. For them the object of metaphysics becomes *unknowable*. And, in fact, it is so in the arbitrarily restricted sense they apply to the act of knowing.

Thereupon comes a theorist of knowledge who attributes *knowledge* or *the concept* to an efficient principle (*Verstand*) which is distinct from that (*Vernunft*) which thinks metaphysical *ideas*, and states his conclusion that substances, the Ego, and the absolute, are *ideas of the reason*, but that they do not fall within the reach of *knowledge*.

This is how, with some slight differences, Kant, Spencer, Wundt, and many others express themselves. Does this mean that, according to these writers, substances, the Ego, and God, are, in every possible sense of the word, *unknowable?*

Clearly, not. Doubtless, we cannot know them as objects of experience, says Kant, for every object of experience is conditioned by space and time; but we cannot escape from the necessity of thinking that if there is a possibly indefinite series of conditioned phenomena, the sum of such phenomena must itself have a condition which is unconditioned, or, to put it more explicitly, an absolute which conditions the sum of the phenomena of inward experience, another that conditions the sum of the phenomena of external experience, and lastly, a third which conditions all that is conditioned; the *soul*, the *world*, *God*.

"We have no *definite* consciousness of the Absolute," says Spencer; "but our ideas of it are none the less real because of their incompleteness, real

in the sense of being modes, indisputable and normal affections of the mind."[1]

The English metaphysician is so conscious of being aware of the absolute that, while declaring that it is unknowable, he makes it the fundamental substratum of matter, force, motion, and consciousness, and says that it is One.

Again, Wundt tells us that the principle of sufficient reason has a universal bearing. We are quite right in using it to complete the data of experience with the help of elements unperceived by experience, but which our inevitable need of unity forces us to conceive.

These masters of contemporary philosophy, however bound they may be to agnostic positivism, cannot deny that *they have their own way of representing to themselves* that metaphysical world which they elsewhere affirm to be *unknowable*. Indeed, they must form some representation of it, since they argue about it.

Is this inconsistent on their part ? We think not. The distinction they set up between the knowable and the unknowable fundamentally corresponds, in our opinion, with the old Scholastic distinction between *positive*, *proper*, and *immediate* notions, and those that are *negative*, *analogous*, and *transcendental*.

Let us try to justify this comparison between the language of agnostic positivism and that which is universally used by the Schoolmen.

For this purpose, let us follow the progress of thought from the first idea, that of substance, to the last idea, that of the absolute.

[1] See above, p. 103.

When the cerebral system and the life of the senses which depends upon it have attained their normal development and make the dawn of mental life possible, what is the first step taken by the mind, and what is the significance of that step? At the outset, the mind only grasps the accidental manifestations of matter. It regards them, indeed, as things-in-themselves. The resistance encountered by the hand on touching anything, and the light perceived by the eyes, these are given by the mind as *something* that resists, *something* bright. The mind attributes to them the indeterminate character of a being that is—so to say—"*sistent*," *aliquid sistens*, and the indefinite stammering of the infant who applies the demonstrative pronoun, *cela*, *das*, *that*, to all that strikes its senses, well reflects the mode or perception of the first object of thought.

This first notion is but the notion of an accident, but of an accident *grasped as a sistent thing*, or a *thing-in-itself*. It is positive and proper, and the corollary attributes of unity, plurality, act, power, which belong to the first head of general metaphysics, offer the same characteristics.

But as soon as the mind passes from this primary notion of a *sistent* thing to that of a *sub*sistent thing or *substance*, it brings into play the indirect procedure of negation and analogy.

When reality affords us in an undivided aggregate, habitually the same, various accidents, the subjective sensations that correspond with them are also found to be habitually associated, and the subject of their action comes to represent them to itself as a whole of given things, as an *object*.

The mind spontaneously compares together the various elements of the composite whole. Some of them come and go, appear and disappear, others do not disappear but remain. Discernment between the variable manifestations and the data invariably found amongst a larger or smaller number of phenomena connected with some natural instance, is the first spontaneous outline of the work which, in scientific language, is called induction. The latter, in fact, is the logical procedure which mentally separates the stable *properties* of a thing from its contingent *accidents*.

Induction enables us to *specify* beings according to their *properties*. The latter form the basis of their regular mode of action, and establish the *law* of their distinctive activity.

Nevertheless, even the instances thus specified, and the properties that characterize them have only a *relative* stability. A more careful experiment bears witness to this. The chemical reactions that daily occur under everyone's eyes in nature, as well as those effected by the scientist in his laboratory, prove the essential mutability of all the individuals that compose natural species.

Physical properties undergo the lot of the chemical compound which they affect. "Matter is manifested to us through its properties," writes M. Armand Gautier, "but not one of them appears necessarily to belong to it. Continual changes of light, heat, electricity, mechanical power, etc., occur between material objects, and impart to them brightness, colour, heat, elasticity, and motions that make them capable of being felt, but the *substratum*

of which the material bodies are formed remains *inert—i.e.*, incapable of itself causing either motion, or any of the properties with which such bodies have been endowed. 'Matter,' says Claude Bernard, 'does not give rise to the phenomena that it displays, it only provides such phenomena with conditions of manifestation.'"[1]

This *inert substratum*, which the mind abstracts from all natural bodies, and which it conceives of as being pre-existent to their properties, makes us double the corporeal *ens sistens* which we started with, till it becomes a *sub-jectum*, *sub-stratum*, *substans* (ὑποκείμενον) on the one hand, and *accedentia* (ἐπισυμβεβηκότα), *accidentia*, on the other—in a word, *substance*, and *accidents*.

But what is our notion of substance? We know that it *is*; that, in the complex reality in which it is presented to us, it acts upon other bodies and upon ourselves; but apart from the indeterminate attributes of *being* and *action*, conceived of in the *positive* and *distinctive* form which we think to be suited to natural things, what do we know of corporeal substance in general? What do we know of the different natural substances?

When we oppose substance to accidents, and, in order to get a fixed idea of its inner constitution, try to understand the mixture of stability and instability in the material body, from that moment positive reality flies away from us; and we are driven to make use of representations that no longer tell us what and how the thing is, but what it is not,

[1] A. Gautier, *Revue des sciences pures et appliquées*, 1897, No. 7, p. 291.

and wherein it differs from what we have learnt from reality.

Ask the greatest of metaphysicians what is material substance? Material substance, replies Aristotle, is composed of two constituent parts. The one, primary matter, is neither quality nor quantity, neither this nor that; the other is that whereby the primary matter gets its actualization and the body its essential fulfilment (ἐντελέχεια), and the principle of all its energies.

Neither the one nor the other are known to us as they are, for mentally we only know that which we abstract from the data of experience; but direct experience does not reach the constituents of bodies, but only the body itself in its composite being.

It matters little to our purpose whether the Aristotelian theory of matter and form be here regarded as established doctrine or as an ill-supported hypothesis. The important thing to bear in mind is that, according to Aristotle—and for many centuries he was followed in this by the Scholastic metaphysicians—man's mind, even as to the constitution of *corporeal substance in general*, only has *negative* and *analogical* ideas.

But *specific* substances are to us simply *bodies* which we characterize by some of their *properties*. Therefore, the metaphysical notions we form of the various *specific* natural types also depend upon *negation* and *analogy*.

Hence even of *material* substances it is true to say that, in one sense, they are *unknowable*. Indeed, they are not knowable *in a positive manner according*

to the reality belonging to them. The knowledge of the metaphysician is of a different nature from that of the physicist and the geometrician concerning sensible changes and quantity.

But the knowledge of *immaterial* beings is subordinate in its turn to that of material things. Our notions about the nature of spirits (minds) and of the divine Being are some of them positive, others negative. But all the *positive* content of the former is borrowed from sensible experience, either outward or inward, and therefore, since it is not incompatible with the conditions of corporeal existence, it cannot enter as a *distinctive* characteristic into the definition of spirit (mind); it is only *negation* that draws the line of demarcation between the material and the immaterial worlds.

Gather together all the perfections which, in virtue of the principle of causality, we have a right to attribute to the First Cause of the universe; they can be attributed collectively as well as distributively, without any intrinsic contradiction, to a being which is within the bounds of the finite; and therefore, neither taken separately nor as a whole do they form a positive characteristic belonging in strict propriety to the divine Being. To make of them a concept *distinctive* of the divine Being, we must add mentally that the purest of created perfections must belong to the necessary Being *in quite another manner* than they do to contingent beings. Indeed, they must be blended in a transcendent unity, in a *superexcellence* that takes the place of all known excellences, and, whilst it is essential to the latter that they should form a

subject *capable* of existence, it is essential to the superexcellence of the divine Being that it should *exist*. Now, we have no positive idea of a superexcellence which it would be contradictory to conceive of as purely possible so far as existence is concerned.

It is then rigorously accurate, under the reservations we have made, to qualify the absolute as unknowable. As St. Thomas acutely remarks: "The very perfection of the knowledge of God consists in knowing that He is unknown."[1]

It is indisputable that many of the opponents of metaphysics wage war against it owing to the misunderstandings arising from the ambiguities we have been endeavouring to dissipate. Metaphysics, in their opinion, is a system of subjective ideas that have nothing to do with scientific methods. Its aims are unattainable, because the mind cannot reach them with the same perfection and by the same means as those whereby the aims of the physical and mathematical sciences are attained.

[1] *Secundum hoc* (a Dionysio, *Myst. Theol.*, c. 1, § 3) *dicimur in fide nostrae cognitionis Deum tanquam ignotum cognoscere, quia tunc maxime mens in Dei cognitione perfectissime invenitur, quando cognoscit ejus essentiam esse supra omne id quod apprehendere potest in statu hujus vitae.* —St. Thomas, *In Boeth. de Trin*, prooem., Q. I, A. 2, *ad* 1. *Succumbat humana infirmitas gloriae Dei. . . . Laboremus sensu, haereamus ingenio, deficiamus eloquio: bonum est ut nobis parum sit, quod etiam recte de Domini majestate sentimus.*—Serm. II., S. Leonis Papae, *De Pass. Domini.*

The foregoing analysis gives, we believe, the key to the antinomies Spencer thought he found in the notion of the Absolute. (See above, pp. 98 *ff.*) In the case of the English psychologist, *to know* means to know the individual or specific essence of a being by means of positive and proper concepts. That which is known only by way of negation and analogy is to him the same as the unknown.

In this there are two unfortunate misunderstandings. If we have succeeded in disentangling them, we may conclude that the two general arguments appealed to by agnosticism for denying the *possibility* of metaphysics miss the mark.

There is a third argument favoured by positivists, which is more directly aimed against special metaphysics, rational psychology.

Positivism objects to the soul, the Ego, and the faculties, and desires to sweep them from the field of psychology as being just so many vain entities, which it is agreed to label as " scholastic."

When, going beyond the facts of consciousness, psychology lays down a *substantial Ego*, and *faculties*, is it not simply taking words for realities ? We begin with emptying substance of its reality—*i.e.*, of its acts—writes Taine, and " by a sort of optical illusion we create an empty substance which is the Ego taken in itself."[1]

As a matter of fact, " the Ego is a web of occurrences: it has in it nothing but such occurrences and their connections." In the same way, " forces, faculties, or powers are simply permanent possibilities of occurrences."[2]

Taine credits metaphysicians with doctrines which

[1] Taine, *De l'intelligence*, I., p. 345.

[2] " The forces, faculties, or powers that belong to the web of which a being is woven are simply the property that such and such an occurrence in the web of being has of being constantly followed, in various circumstances, outward or inward, by such and such an outward or inward occurrence. Thus, there is nothing in the web, except occurrences and their more or less remote connections with one another or with outward occurrences; and the Ego which is the web contains nothing but these occurrences and their connections."—*Ibid.*, p. 346.

they are the first to repudiate. They do not maintain that consciousness perceives, at any moment of our existence, a self or Ego free from occurrences, or powers without acts. The substantial Ego is only knowable in the exercise of its faculties, and these are only knowable in act. These affirmations concern the sphere of *logic*.

But the ontological *connection* of occurrences, which Taine does not call an uncontinuous series, but "a *web*"; and the right to affirm that the same *self* or *Ego*, "*this being*," at different moments, feels, imagines, thinks, and wills, apparently presupposes one or more *subjects really* distinct from the acts they produce and whereby they are revealed to us, one or more subjects in existence prior to the fleeting acts attributed to them, and persisting after the acts are over.

No, says Taine. This supposed *subject* is simply a "permanent possibility of occurrences." Now, what is a possibility of occurrences? The possibility may be taken to be *logical*, *negative*, and *intrinsic*, or as *real*, *positive*, and *extrinsic*.

The first kind of possibility is simply an absence of contradiction between the various elements of one and the same concept—*e.g.*, the possibility of an infinite multitude. The concept of an infinite multitude is possible (*logically* possible), since the object of the concept is not impossible (*negatively* possible), and its elements are compatible with one another (*intrinsically* possible).

The second kind of possibility presupposes the first, but it also demands the *existence* of a cause capable of realizing what is regarded as simply

being not intrinsically impossible. Possibility thus understood relies upon a reality (*real* possibility), apart from the object intrinsically possible (*extrinsic* possibility), and endowed with what is required to make that which is declared to be intrinsically possible pass from the sphere of the ideal to the sphere of existence.

Will it be said that the self or Ego and its faculties are the permanent *real* and *positive* possibilities of our successive acts, and the explanatory reason of their constant connections in the web of life? We do not maintain anything else.

But to try to make out of the Ego and its faculties, *logical, negative,* and *intrinsic* possibilities, to affirm that "the idea of *fact* or *occurrence* alone corresponds with real things,"[1] and to maintain that a *logical* possibility accounts for a *real* constant connection, is to be satisfied with mere words.[2]

"Upon a hook painted on the wall," says Taine in an English quotation, "you can only hang a chain which is painted on the wall." This English sapience, wittily replies M. de Craene, should be a help not only to positivism. There is a hook, the reality of the Ego and its faculties, and there is a chain fastened to it, the facts which their activity enables us to perceive. If you will have it that

[1] Taine, *De l'intelligence*, p. 350.

[2] "What is the character of such words as possibility? They plainly signify a quality, and therefore a quality of something. When we say a thing is practicable, we mean that it can be done; when we speak of anything as destructible, we mean that it can be destroyed. Then, if we want to speak of several things that are practicable or destructible, we can form new substantives and adjectives, and speak of practicableness, destructibility, and the possibility of things."—Max Müller, *The Science of Thought.*

these facts are something more than "a chain painted on the wall," you must admit that the reality upon which they depend is something more than "a hook painted on the wall"!

Therefore, a "permanent possibility of sensations" is a meaningless phrase, unless we assume that there is a *something* endowed with a *quality*—*i.e.*, that which is indispensable for the production of sensations.[1]

Thus, then, this much decried science of metaphysics is possible.

From the acts that consciousness perceives and the outward manifestations of which are matter for observation, it is logical to go back to the faculties, and from these to the substantial subject which acts by their means. The diversity of acts compels us to affirm a diversity of faculties, some material, others immaterial. The subject that possesses them is, therefore, matter and mind (spirit); and is nevertheless one, for all the manifestations of life studied in man by psychology depend upon one another, and show one and the same fundamental principle. Thus matter and the immaterial soul form one and the same substantial compound, *man*.

Everyone knows the Aristotelian and Scholastic interpretation of the substantial union of soul and body. The body, of itself, is only a *power*, not, indeed, a *logical* power which, in the ontological order, would be a pure nothingness; but a *real* power; the act of the matter of the human compound is the immaterial soul, *the substantial form* of man, and, according to the teaching so energeti-

[1] De Craene, *De la spiritualité de l'âme*, p. 301. Louvain, Institut Supérieur de Philosophie, 1897.

cally defended by St. Thomas Aquinas, the one and only substantial form of every human being.

And if we would extend the field of metaphysics so as to connect man and the beings around him with a higher unity, in order to build up the one, complete, and unshakable temple of knowledge,[1] a building which can stand firm of itself, a system, σύστημα,[2] logic leads to the following conclusions:

That man and external beings are contingent—*i.e.*, that in none of them does essence imply existence—and nevertheless they exist. Hence there is something which has brought them into existence. If this cause were itself contingent, it would not altogether resolve the problem of their existence, because it must have a cause for itself. Therefore contingent existence must have a cause that is itself non-contingent but *necessary*—*i.e.*, such that its essence is identical with its existence.

[1] Metaphysics is nothing else but the fulfilment of knowledge; and it might take its motto from Aristotle: *Scire omnia maxime*. On this subject read P. Lemmius, *Saggio sintetico della metafisica di S. Tommaso d'Aquino*, an essay published in the *Accademia romana di san Tommaso*. "What," he asks, "is perfect knowledge? Nothing but sure and distinct knowledge of an adequate truth. . . . If knowledge is to be perfect, truth must be perfect and perfect, too, must its possession be. Moreover, since the mind possesses its object in two ways, by apprehension, and by judgement, both apprehension and judgement must also be perfect. And truth is perfect if it is adequate, apprehension is perfect if it is distinct, and judgement is perfect if it is sure. Therefore this definition of perfect knowledge is right: that it is distinct and sure knowledge of an adequate truth. This is that which Aristotle expresses with such vigour and brevity in his *Scire omnia maxime*, the *omnia* referring to the objective, the *maxime* to the subjective element."—*Op. cit.*, p. 18, 1.

[2] On the systemizing of science, see Tiberghien, *Introduction à la philosophie et préparation à la métaphysique*, Bruxelles, Mayolez, 1880.

Therefore it is on the ground of experience that the existence of a necessary Being is affirmed. Reason compels us to choose between affirming the existence of God and maintaining an essential contradiction at the very heart of that contingent being, the existence of which we have ascertained.

Besides, the unity of order in the universe, the finality that is immanent in every created substance, and the law of the subordination of ends, whether of the moral or of the physical order, to a supreme End, lead reason to affirm that the necessary Being, Intelligence and Will, and Creator of the universe, is supreme wisdom and supreme love.

An analysis of the concept of necessary Being leads of itself to the conclusion that God is one, perfect, and infinite.

Such in broad outline is traditional metaphysics so far as it has to do with *positively immaterial* beings, man's soul and God. What has modern philosophy to set in opposition to this traditional metaphysics? For, after all, it is all very well to run down metaphysics, to say that it is in conflict with science, and to declare it barren or impossible, but there is not a single thinker who does not sooner or later work out a metaphysics of his own.

We have noted that there is a tendency in psychology to hitch on to the theory of parallelism. "Hitch on" is the word, for in fact, what is the juxtaposition of movement and thought, body and soul, in two parallel series but just *setting* the problem that has to be solved? And, to assume that at the unknown basis of phenomena there is one single substance, analogous to that imagined

by Spinoza, with *extensio* and *cogitatio* for its attributes—what is this but to refer to an arbitrarily assumed subject the difficulty which one has admitted one's inability to solve in the sphere of things that are known ?

In the philosophy of nature, the metaphysics of to-day may be broadly summed up, with the exception of a few details, under *Monism* and *Evolutionism*. Monism stands for the unity of composition in beings, evolutionism for their oneness of origin traced through an indefinite accumulation of gradual modifications. Further, oneness of origin through an evolutionary process is the necessary corollary of unity of nature or of composition in all the beings of the universe.

But on the ground of what experience or principle can this unity of composition be maintained ? It is a purely *a priori* assumption !

If monism rather than dualism wears a smiling aspect in the eyes of Spencer, Fouillée, Wundt, Paulsen, Ziehen, Höffding, Ebbinghaus, or others, does that prove that nature fits in with their way of looking at things ? Wherein is the supposition that there are two or more elements, or forces, or factors which cannot be reduced to one another, contradictory ?[1] And is evolution maintained on the ground of fact, or of principle ?

M. Yves Delage, Professor of the Sorbonne, in his great work, *La structure du protoplasma et les théories sur l'hérédité*, sets the question to himself explicitly and answers it in the following significant terms:

[1] See M. A. de Margerie, *Annales de philosophie chrétienne*, Nouv. série, t. xxxv., No. 2, p. 178; *La philosophie de M. Fouillée.*

" Of *race*—taking the word in its widest sense—I give a definition implying descent, and it will be asked what right we have to use it without proving our right so to do.

" I can easily admit that one species has never been seen to give rise to, or to be transformed into, another, and that it cannot be formally proved ever to have done so. I am now speaking of a true good species, fixed as natural species, and, like them, maintaining itself without human assistance.

" *A fortiori* is all this true of the genus.

" Nevertheless, I consider descent as certain a fact as if it were objectively proved, for without it there is no other possible hypothesis than that of the spontaneous generation of all species, and even of the higher species, and that of their creation by some divine power. These two hypotheses are both equally unscientific, and we shall not pay them the honour of discussing them."

The above lines are followed by this frank statement:

In the above passage, " I make use of the first person to show that I am speaking in my own name and not in that of the supporters of transformation, many of whom will doubtless be scandalized when they read this declaration.

" I am, however, absolutely convinced that a man supports or does not support transformation, *not for reasons* taken from natural history, but *because of* his philosophical views.

" If there were any other *scientific* hypothesis than that of descent to explain the origin of species,

a number of transformists would give up their present opinions as insufficiently proved."[1]

We record this avowal of a natural historian of exceptional competence. If the transformation of organic species is acknowledged to be an unproved assumption, *a fortiori* must evolution in general be regarded as hypothetical.

Monist and evolutionist philosophers took pleasure in looking upon traditional metaphysics as a subjective and decadent system, for which the time had come to substitute a "scientific" philosophy, firmly grounded upon facts, but now it finds that it can only appeal to philosophic preferences and mere assumption in support of the oneness of nature of the beings of the universe, and evolution.

In 1870, Trendelenburg wrote thus of Schelling: "If this powerful thinker had only chosen for his first leader, not Fichte, to go back through him to Kant, to Spinoza and others, but Aristotle, then Germany would have witnessed the bursting forth of ideas of quite another character, and the realization of a work far greater, and more robust and fruitful. So true it is, that the tradition of the great thinkers of mankind should not be broken."

How much to the point is this view to-day, and how well-founded the following conclusion of the great promoter of Aristotelianism in Germany: "It is high time to give up the common German prejudice, which would have it that some new principle for the philosophy of the future still remains to be discovered. The principle *has been* discovered. It resides in that organic conception of things, of

[1] *Op. cit.* Paris, Reinwald, 1895, p. 184.

which Plato and Aristotle were the founders, and the principles and various portions whereof can only be more and more deeply understood by reflecting thereon, whilst its permanent connection with the sciences of observation could only help to develop and perfect it."[1]

Now, it is this Aristotelian conception which is the most inspiring element in neo-Thomism.

[1] A. Trendelenburg, *Logische Untersuchungen*, 3 Aufl., Vorwort, S. ix.

CHAPTER VIII

NEO-THOMISM

For many centuries it was commonly thought that, from the time of the decadence of the Greek Schools till the day of the publication of the *Discours de la Méthode*, philosophy lay benumbed, and that it produced nothing worthy of attention.

Thus, Scholastic philosophy generally appeared as only a burlesque parody of sound philosophy, and there were plenty of historians who did not scruple to take no notice of it.

The French Revolution gave a kind of violent sanction to this universal unpopularity, and hence some great and noble works, worthy of immortal respect, were swallowed in oblivion.

To-day, thanks to the conscientious philosophical labours of Hauréau,[1] Werner, Stöckl, Ehrle, Denifle,[2] Bäumker,[3] Picavet,[4] de Wulf,[5] and others, and

[1] Cf. M. De Wulf, *Comment faut-il juger M. Hauréau ?* (*Revue néo-scolastique*, 1901, pp. 58-65).

[2] See A. Pelzer, *Le Père Henri Suso Denifle* (*Revue néo-scolastique*, 1905, pp. 358-374).

[3] A professor of Strasburg. With von Hertling he edits the *Beiträge zur Geschichte der Philosophie des Mittelalters* (Münster since 1891.).

[4] Writer of many essays, particularly of an *Esquisse d'une histoire générale et comparée des philosophies médiévales*, Paris, 1907. Cf. *Revue néo-scolastique*, 1905, p. 266, and 1907, pp. 92 *ff.*

[5] Among many other works let us mention *L'histoire de la philosophie scolastique dans les Pays-Bas et la Princi-*

thanks also to the uncertainties of modern thought which make the need for taking one's true bearings more and more imperious, people are beginning to study the great and strong tradition of the School with more ardour and to appreciate it more justly.

It is now admitted that the Middle Ages as a whole were not so barren as their detractors have denounced them for being, but that the thirteenth and fourteenth centuries in particular were an era of expansion and fruitfulness, in which there open y flourished the most varied philosophical systems, the offshoots of the mind of Plato and St. Augustine and the Fathers of the Church, as well as of Aristotelianism, which they made to bloom afresh.

It is true that Scholasticism begins to decay from the fifteenth century. Philosophic interests became the subject of discussion in an age of humanism which treated the language of the Schools as if it were a barbarous and blundering jargon; and the doctrine itself could not escape the contempt which fell upon its expression.

The Renaissance not only restored the culture of pagan literature, it also revived the old Greek philosophies; and the more it abounded in neo-Pythagoreans, neo-Platonists, and in upholders of a new Aristotelianism and a new Stoicism, the more it abounded in opponents of an enfeebled Scholasticism.

On the other hand, the farther we get away from

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pauté de Liége (Louvain, 1895); *l'Introduction à la philosophie néo-scolastique* (1904); *l'Histoire de la philosophie médiévale* (1905). In 1901 M. De Wulf began a series of texts and studies entitled *Les philosophes du moyen âge*, which has now run to three volumes.

the period of Peter Lombard, Alexander of Hales, Albert the Great, and Thomas Aquinas, the more do the inheritors of their fame go astray in unimportant and subtle controversies. They compromise the metaphysics of the first great masters by involving it in unscientific theories of nature or cosmogony, or even with conjectures which the genius of St. Thomas had enough insight to cast aside.[1] It is not at all surprising that experimental science, with all the prestige of its astonishing discoveries, should have condemned to eclipse theories so maladroitly supported.[2]

[1] Certain assumptions of Aristotle to account for the apparent irregularities in the motions of the planets are questioned by St. Thomas in the following well-known passage: *Astrologorum suppositiones quas invenerunt, non est necessarium esse veras. Licet enim talibus suppositionibus factis appareant solvere, non tamen oportet dicere, has suppositiones esse veras,* quia forte secundum alium modum nondum ab hominibus comprehensum, apparentia circa stellas salvatur. Aristoteles tamen utitur hujusmodi suppositionibus ad qualitatem motuum tanquam veris.—*De coelo et mundo,* Lib. II., Lect. 17. Blessed Albert the Great, too, put restrictions on his teaching as to the things of nature: *Earum quas ponemus* (sententias), *quasdam quidem ipsi nos experimento probavimus, quasdam autem referimus ex dictis eorum, quos comperimus non de facili aliqua dicere, nisi probata per experimentum. Experimentum enim solum certificat in talibus, eo quod de tam particularibus naturis syllogismus haberi non potest.—De Vegetalibus,* ed. Jammy, Lugduni, 1651, V., p. 430. Cf. Dr. Carl Braig, *Ueber die philosophische Bedeutung von Schulbüchern* (*Philosophisches Jahrbuch,* 1891, pp. 406-407).

[2] The dispute between the followers of Copernicus and those of Aristotle and Ptolemy is of capital importance from our present point of view. It was specially lively in the first half of the seventeenth century, after the famous astronomic discoveries of Galileo. The latter pulverized the Aristotelian teaching as to the incorruptibility, intrinsic immutability, etc., of the heavenly bodies. On the other hand, the Aristotelians upheld the authority of the Stagirite, in rejecting counter arguments, which were not always unim-

But this decadence of the School has been exaggerated by generalizing it. If the fifteenth century is a period of unpopularity for Scholasticism, there are nevertheless some remaining survivors of its great traditional teaching. Famous are the names of Capreolus, the prince of Thomists, Sylvester of Ferrara, the most esteemed commentator of the *Summa contra Gentiles*, Gerson, the famous chancellor of the University of Paris, Denys the Carthusian, and above all, of Thomas del Vio, called the Cajetan.

In the sixteenth and seventeenth centuries, the Dominican school of Salamanca, Francis of Vittoria and his disciples, Dominic Soto and Medina; the theologians and philosophers of the Society of Jesus, especially Gabriel Vasquez and Suarez, the professors of the College of Coïmbra; the Carmelite College of Alcala and John of St. Thomas: these always go back to Aristotle and the Doctor of Aquinum; Fénelon, Bossuet, and even Leibnitz show marked traces of the influence of St. Thomas, although theirs is an eclectic philosophy.

Even in the eighteenth century the Scholastic tradition is not dead, but it is not to be found outside the cloisters in which it has taken refuge; and alongside of it free play is given to the teaching of the innovators, which is neither barred out nor confined within set limits by tradition.

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peachable. Many of them, said Galileo, " rather than admit any change in the heavens of Aristotle, they will incontinently deny those they cannot help seeing in the heavens of nature." On the intricacies of the dispute in Belgium, read Mgr. G. Monchamp, *Galilée et la Belgique*, Saint-Trond, 1892 Cf. St. Thomas, *De coelo et mundo*, I., Lect. 6 and 7.

At the beginning of the latter century, Christian philosophers found nothing to set against French and English sensationalism and German criticism but a vague spiritualism, derived from Descartes. Bonald, Bautain, and Lammenais rightly thought that this was not enough, but they were unhappy in their attempts to start a new philosophy. They ended in Fideism and Traditionalism, and the Catholic Church, more anxious to maintain the truth than to spare her friends—*magis amica veritas*—did not hesitate to condemn their systems.

Then Christian philosophers took up classic spiritualism anew, and, in order to rejuvenate it, thought they could connect it with Malebranche, and, through him, with St. Anselm and St. Augustine. This was the age of ontologism, of which Gerdil, Rosmini, Gioberti, Ubaghs, and Laforêt were the principal representatives in Italy, France, and Belgium. But again, and with the same regret at having to rebuke its devoted and eminent servants, the Holy See declared that salvation was not to be found in that quarter.[1]

Amidst the confusion wrought by the encroachments of the antichristian philosophies of Germany and England, and by the condemnation of efforts which were more generous than intelligent in their defence of Christian thought, the need of renewing the old tradition of the past became more and more urgent. During the last thirty years a medieval renaissance has sprung up. Gothic architecture, and pre-Rafaelite painting win fresh admiration and

[1] See Mgr. d'Hulst, *philosophie séparée et philosophie chrétienne*, Namur, 1896, p. 20. Cf. D. Mercier, *Le bilan philosophique du XIX^e siècle* (*Revue néo-scolastique*, 1900).

enthusiastic emulation; Léon Gautier has revived the old French epics, "which yield characters of immensely higher type than any of pagan antiquity";[1] the political and economic teaching of St. Thomas begins to be studied afresh; and in all the countries of Europe Scholastic philosophy is in a fair way to recover its former greatness.

The Dominican Gonzalez, de Cepeda, Orti y Lara, Urráburu, Arnáiz, Gómez Izquierdo, in Spain; Sanseverino, Signoriello, Prisco, in Southern Italy; Berberis and Tornatore, in Plaisance; Liberatore, Zigliara, Cornoldi, de Maria, Schiffini, Mattiussi, Talamo, Lorenzelli, Satolli, in Rome; Kleutgen, Stöckl, Morgott, Schneid, Gutberlet, Bäumker, Pesch, von Hertling, Schneider, Glossner, Meyer, Cathrein, in Germany; Willmann, Kaderavek, Kiss, in Austria and Hungary; Kaufmann, in Lucerne; St. George Mivart, Harper, Maher, Rickaby, in England; de San, Dupont, Lepidi, van Wedingen, Dummermuth, in Belgium; Grandclaude, Vallet, Farges, de Bonniot, d'Hulst, Domet de Vorges, Gardair, Bulliot, Elie Blanc,[2] Monsabré, Coconnier, de Regnon, and, with slight modifications, Peillaube, Fonsegrive, Piat, in France; Père de Groot and Beysens, in Holland: all these by their common

[1] Léon Gautier, *La chanson de Roland*, Préface de la 19me édition.

[2] M. Elie Blanc's *Histoire de la philosophie* contains a well documented chapter on the restoration of Scholastic philosophy. While we are grateful to the author for his kind interest in the Higher Institute of the University of Louvain, we must part company with him in his distrust of psycho-physics and in his strictures upon what we have said as to the extent of sensations. Let us remember what St. Thomas says: *Sentire non est proprium animae neque corporis, sed conjuncti.—Summa Theol.*, 1a, Q. 77, A. 5.

efforts prove that Christian philosophy has once more come to its own.[1]

Furthermore, they have been encouraged by the Popes. There are the famous letters in which Pius IX, writing to the Archbishops of Breslau and Munich, expressed his benevolent interest in the restoration of Thomism. But it was Leo XIII who imparted to the neo-Thomist movement an all-round stimulus and gave it its true bearings. When this great Pope was gravely urging the learned Catholic world to return to " those most pure waters of wisdom that pour forth in everflowing streams from the angelic Doctor's fount of teaching," he laid it down in what sense that return should be made, so as to forestall the objections afterwards advanced. Obsolete subtleties were not to be defended, and full account was to be taken of the important discoveries that daily add to the increase of thought or extend the field of natural science and observation. " We declare," said the Encyclical *Aeterni Patris* of August 4, 1879, " that every wise thought and every useful discovery, wherever it may come from, should be gladly and gratefully welcomed." " If in the teaching of the School there be any question which is too subtle, any hasty affirmation, or anything that does not accord with the established doctrines of later times, or that, in a word, is devoid of probability, we by no means desire to suggest that it should be followed in our own days."[2]

[1] On the work done to-day, see *Le mouvement néo-thomiste*, in the *Revue néo-scolastique*, 1901 *ff*.

[2] Among the many commentaries on the Encyclical *Aeterni Patris*, see Van Weddingen, *L'encyclique de S.S. Léon*

Pius X carried on the work of Leo XIII in favour of Thomism. In the Encyclical *Pascendi dominici gregis* of September 8, 1907 he asked that "in the matter of studies, the Scholastic philosophy should form the basis of the sacred sciences." After quoting the above-mentioned passage from the Encyclical *Aeterni Patris*, he set forth his mind in the following words: "When we prescribe the Scholastic philosophy, what we mean thereby—and this is of capital importance—is the philosophy handed down to us by the angelic Doctor. We therefore declare that all that has been laid down by our predecessor on this subject remains in full force, and, so far as may be required, we lay it down afresh and confirm it, and order that it be rigorously observed."

Since 1879 the awakening of appreciation of the traditional teaching is becoming more and more manifest. There is Leo XIII's foundation of the *Accademia Romana di San Tommaso*, and the generously subsidized pontifical edition of the Works of the Angel of the School, illustrated by the commentaries of Cajetan and Sylvester of Ferrara; there is the free course of lectures in the philosophy of St. Thomas given at the Sorbonne by M. Gardair for several years; and another professorship officially founded at Amsterdam, and confided to Père de Groot. Then the teaching of St. Thomas underlies

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XIII et la restauration de la philosophie chrétienne, Bruxelles, 1880; and Schnied, *Die Philosophie des hl. Thomas und ihre Bedeutung für die Gegenwart*, Würzburg, 1881.

In the *Evening Transcript* (July 29, 1903, Boston, U.S.A.), see a remarkable study by Royce, entitled *Pope Leo's Philosophical Movement and its Relations to Modern Thought*.

the theological and philosophical instruction of the Gregorian University, the University of Minerva, the College of St. Anselm, the Roman Seminary of Apollinaris, the Faculty of Theology at Innsbrück, the Catholic Faculties of Paris, Lyons, Lille, Angers, Toulouse, the Catholic University of Washington, where long taught a professor of the highest class, M. Bouquillon, whose works on morals constitute a judicious and faithful commentary on the *Summa Theologica*. And lastly, there is the new University of Freiburg, where the teaching of theology and philosophy is given over to the most authorized maintainers of Thomism, the sons of St. Dominic.

Here, too, we may be permitted to mention Leo XIII's foundation of the Higher Institute of Philosophy of the Catholic University of Louvain, which was undertaken for the purpose of combining in one the teaching of the old metaphysics with the fruits of scientific labours of later date.[1]

The same activity that led to the founding of

[1] *Equidem necessarium, nedum opportunum esse ducimus, ea* (studia) *recte et ordine dispertita sic tradi alumnis, ut complexa quidquid veterum sapientia tulit, et sedula recentiorum adjecit industria, large copioseque eos sint paritura fructus, qui religioni pariter et civili societati proficiant.*— Letter of Leo XIII to the Cardinal Archbishop of Malines, November 8, 1889.

For further information about the Higher Institute of Philosophy, see M. Besse, *Deux centres du mouvement thomiste* (from the *Revue du clergé français*), Louvain, 1902. M. Pelzer, *L'institut supérieure de philosophie*, 1890-1904, and in the *Revue néo-scolastique*, under the heading, *Bulletin de l'institut de philosophie*.

See also Habrich, *Die neu-scholastische Philosophie der Löwener Schule* (Introduction to the German translation of *Psychology*, Kempton, 1906), and Coffey, *Philosophy and the Sciences at Louvain*, an Appendix to the English translation of De Wulf's *Introduction à la philosophie néo-scolastique*, Dublin, 1907.

chairs of Scholastic Philosophy has also been shown in the starting of reviews and magazines. Before 1880 Catholics scarcely had anything besides the *Annales de philosophie chrétienne* of Paris. Since then there have appeared the following: At Plaisance, the *Divus Thomas* (1880), now defunct; in Rome, the *Accademia Romana di S. Tommaso d'Aquino* (1881); at Temesvär, Hungary, the *Bölcseleti Folyóirat* (1885); at Paderborn, the *Jahrbuch für Philosophie und spekulative Theologie* (1887); at Fulda, the *Philosophisches Jahrbuch* (1888); at Freiburg, the *Revue Thomiste* (1893); at Louvain, the *Revue néo-scolastique* (1894); in Paris, the *Revue de philosophie* (1900) and *La pensée contemporaine* (1903); at Kain lez-Tournai, the *Revue des sciences philosophiques et théologiques* (1907).

The neo-Thomist movement has shown its widespread energy in full and extensive congresses. Since the Encyclical there have been four International Congresses held successively in Paris, Brussels, Freiburg, and Munich. In these gatherings the philosophical sections received numerous contributory works. Even in 1891, at Paris, among the nineteen philosophical contributions several tended towards Scholasticism or else were frankly Thomist.[1] At Brussels, in 1895, "all the philosophic subjects brought forward . . . are chiefly characterized by a desire to combat the Kantian *Critique* and its positivist supporters."[2] Sixteen

[1] Cf. *Revue des questions scientifiques*, July, 1892, pp. 198-209.

[2] Cf. J. Homans, *La Philosophie au Congrès scientifique international des Catholiques* (*Revue néo-scholastique*, 1896, pp. 84 *ff*).

important and genuinely Thomist papers covering the whole field of philosophical discussion gained for their writers the applause of the members. In 1897, at Freiburg, one could not but remark how "the traditional philosophy is winning more and more influence over men's minds. Almost all the papers claim to have some connection, direct or indirect, with the fundamental teaching of Aristotle; and almost all attempt to take shelter under the great name of St. Thomas Aquinas. It was not always evident that such claims were really justified; but the tendency to try and avoid conflicting with the Angel of the School is pretty significant."[1] Thirty of the papers read gave rise to long discussions in which the tendency of contemporary Catholics to break loose from Cartesian or eclectic spiritualism became more and more manifest. Lastly, at Munich, in 1900, forty-nine papers were sent in to the philosophic section presided over by M. Willmann, the first Catholic educationist in Germany, now devoting the evening of his life to the elucidation of Christian philosophy, and especially of Thomism. Of course, many of the papers dealt with matters of philosophic history. Several handled Scholasticism and Thomism from that point of view. Nevertheless the subsequent discussions as well as the subject-essays gave fresh proofs of the growing success of Thomism in Catholic circles.

Thus the Encyclical *Aeterni Patris* was successful in restoring to favour the philosophy of the great masters of Scholasticism, and gave unity to the

[1] Cf. M. P. De Munnynck, *La section de philosophie au congrès scientifique de Fribourg* (*Revue néo-scholastique*, 1897, pp. 328 *ff*).

teaching of the Catholic schools. Moreover, it brought to the attention of the learned and of thinkers who stood outside Christianity a world of thought generally unknown to them. Hence it is not unusual to find those in non-Catholic circles yielding their meed of homage to the superiority of St. Thomas Aquinas, and to the importance of the movement in the direction of a return to his teaching.

" In this second edition," writes Professor Rudolph von Ihering of the University of Göttingen, in his famous book, *Der Zweck im Recht*, " I add a note, thanks to Father Hohoff's review of my work in the *Literarischer Handweiser*, twenty-third year of issue, No. 2. . . . He shows me by quotations from St. Thomas Aquinas that that great thinker had already thoroughly and correctly perceived both the real, practical, and social, and the historical elements of morals. He is quite right in blaming me for my ignorance. But such reproaches are much more deservedly addressed to modern philosophers and Protestant theologians who have failed to turn to account the sublime ideas of such a man. Now that I know this vigorous thinker, I ask in wonder how it is that such truths as he taught were ever allowed to fall into such utter oblivion by learned Protestants. What mistakes would have been avoided if his teaching had been faithfully preserved ! As for myself, had I known it earlier, I think I should not have written this book, because the fundamental ideas which I meant to put forward were already expressed by this powerful thinker perfectly clearly and with remarkable fertility of mind.

" By way of sample, I set before my readers a few of his sayings: *Firmiter nihil constat per rationem practicam nisi per ordinationem ad ultimum finem, qui est bonum commune—In speculativis est eadem veritas apud omnes, in operativis autem non est eadem veritas vel rectitudo practica apud omnes—Humanae rationi naturale esse videtur, ut gradatim ab imperfecto ad perfectum veniat—Ratio humana mutabilis est et imperfecta et ideo ejus lex mutabilis est—Finis humanae legis est utilitas hominum.*

" Unfortunately, I am no longer in a position to take up medieval Scholasticism and contemporary Catholic morals, and to repair my neglect of them. However, whatever success my book may meet with should help Protestant scholarship not to overlook such help as it may secure from Catholic theological learning."[1]

Another Protestant, M. Charles Gide, speaks in a similar way in the *Revue d'économie politique*, of which he is the editor. In a review of M. Brandt's *Les théories économiques au XIIIe et au XIVe siécles* (Louvain, 1895), he writes these significant words: " The renaissance of Catholic Scholasticism and also of Thomism makes a study of these supposedly fossilized doctrines indispensable, and in unearthing them one is astonished to find how living they are, and how they resemble those of to-day, and how little progress we have made after all !"[2]

[1] Rudolph von Ihering, *Der Zweck im Recht*, 2 Aufl., 2 Bd., S. 161, Leipzig, 1886.

[2] Charles Gide, *Revue d'économie politique*, 1896, pp. 514 *ff.* On the actuality and fertility of Aristotelian and Thomist morals read Mgr. Delploige, *Le conflit de la morale et de la sociologie*, Louvain, 1908.

In Holland, Professors Pierson, van der Wyck, van der Vlugt, use the same language.

" What a surprise," writes the latter, " is in store for him who has never known St. Thomas except through the hostile accounts of others, and who one fine day happens to come into direct contact with him through his own works ! . . . Such a man is not of an age, but for all time. All honour to this initiator ! All honour to his work !"[1]

In England, Huxley is no less explicit: " Nowhere in the world at that time (the thirteenth century) was there such an encyclopædia of knowledge in the three departments (of theology, philosophy, and nature) as was to be found in these works. The Scholastic philosophy is a prodigious monument of the patience and skill with which the mind of man undertook the enterprise of building up a logical theory of the world with the help of such materials as it possessed. On the other hand, a number of men of extraordinary culture and learning devote themselves thereto as the best theory of things yet put forward. And, what is still more remarkable, they are men who use the language of modern philosophy, and yet think as the Schoolmen thought."[2]

In 1892, 1893, and 1896, M. Picavet, Professor of the School of Higher Studies of Paris, wrote in the *Revue philosophique* a number of very well-informed articles on Neo-Thomism. And this is how—perhaps with a touch of tragedy—he winds up the end of his last article: " Catholics, united by

[1] Van der Vlugt, quoted in the *Philosophisches Jahrbuch*, III., 1890, S. 133.

[2] T. Huxley, *Select Works*, p. (233) 41, New York, J. B. Alden, 1886.

Thomism, which they round off with an ample stock of scientific knowledge, have made themselves the masters of Belgium; they are to be reckoned with in America and Germany; their influence is growing in France, and even in Holland and Switzerland. Statesmen of every land will have to take account of them, not only in the sphere of home policy, but also in foreign affairs."[1] Statesmen may be reassured! Neo-Thomism has nothing to do with politics. Its sole ambition is to enter into frank and friendly relationship with all who start from facts of experience and history in order to build up, in the words of Huxley, a logically constructed and true theory of the world.

We make our appeal to Plato, Descartes, Leibnitz, Kant, Fichte, Hegel, and Wundt, as much, and certainly as sincerely, as those who regard us as members of a party in opposition to their own. If we differ from them, it is in this, that we exclude no man of genius from our study on the mere ground that he is of a particular period. We consider that any teaching whatsoever, even were it of medieval times and the work of a saint, must always be measured by a single rule, that of its value.

Further, is it not the Head of the Catholic Church who has warned us in his Encyclical, " that we must gladly and gratefully welcome every wise thought, from whatever source it comes " ? And the Pope adds that we should welcome in the same manner " every useful discovery."[2]

[1] *Revue philosophique*, XLI., 1896. *Le néo-thomisme et la scholastique*, pp. 77, 78.

[2] We are quite of the same mind as M. Picavet when he blames Neo-Thomists—of course, the blame is only deserved

Those, indeed, are ill acquainted with the programme of the Thomist philosophy who oppose it to "scientific philosophy," as if observation were not at every step the starting-point of the Scholastic philosophy.

And here it may be well to reproduce the declaration with which we inaugurated in 1890 the courses of the Higher Institute of Philosophy founded at the University of Louvain under the auspices of Leo XIII.[1] Philosophy, we said, is defined as the knowledge of the universality of things by their highest causes. But is it not evident that before we can reach the highest causes, we must advance by way of the more proximate causes which are the object of particular sciences?

Aristotle was a man of learning who was perhaps unparalleled; Albert the Great, the master of St. Thomas Aquinas, has left us in his remarkable works the results of his patient observations;[2] the

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by some of them—with sometimes crediting *their philosopher* and considering as his what he has borrowed from others. (See *Revue philosophique*, XXXV., p. 419.) Among the studies which it is important to make of the history of the Schools of the Middle Ages, there should be the work of classification or attribution, according to which the place of each master should be determined in the scheme of teaching as a whole. This work will be some day undertaken, and it will require the labours of several generations.

[1] *La création d'une école supérieure de philosophie*, p. 9. Leçon d'ouverture (extract from the *Science catholique*, December 15, 1890).

[2] In the same article of the *Revue philosophique* in which M. Picavet opposes "scientific" philosophy to Scholasticism, he gives frequent praise to the experimental methods used by the Scholastics, as in the following passages: "In the thirteenth century, Aristotle is dominant through Avicenna. All the thinkers under his guidance come to

doctors of the twelfth and thirteenth and fourteenth centuries knew the mathematical and other sciences of their times: and must not those who boast of them as their masters remain faithful to the scientific traditions that have been handed down to them ?

The field of science now extends farther than the eye can see, and the sciences themselves have increased in number. To observation of the results that follow upon causes, modern science adds experiment which recreates natural conditions to compel natural forces to reveal their effects. The neo-Thomist philosophy is bound by tradition as well as by interest to turn these resources to good account.

Doubtless, the progress of philosophy is not always directly proportioned to the mass of material accumulated by experience. Sagacity is of greater value than the piling up of a jumble of petty details, and he who knows how to interrogate and understand nature may get more out of some common observation than another from numerous analyses. Nevertheless, the constant study of facts is the ordinary condition for the progress of thought.

Being anxious to corroborate theory with practice, the Belgian episcopate established at the new Louvain Institute a course and a laboratory of

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empirical psychology; they all tend towards a genetic psychology." " Albert the Great depends upon Aristotle and Avicenna; he increases the stock of facts, and presents them clearly and in a more didactic manner: in his case, psychology becomes a natural science." " Even if the Middle Ages knew nothing of experimental methods, they used experiments."—*Revue philosophique*, XXXV., 1893, pp. 418, 419.

psycho-physiology at a time when, according to the *Année psychologique* of MM. Beaunis and Binet, similar instruction was not to be found in France.[1] Why, then, do they persist in ascribing to us, in spite of our honest protestations and facts, servility to prejudice in favour of ideas "that have had their day"?

In the *Année psychologique*, a few pages previous to the admission we have quoted, M. Binet welcomed an invitation by M. Picavet to "a mutual tolerance between Catholics and their opponents for the greater advantage of science, and even of religion, of philosophy and civilization." Why, then, does he so far yield to prejudice as to continue: "To these sensible remarks let us add that when we take up our own special and limited standpoint of experimental psychology for forming an opinion of the new movement, we are unable to sanction a state of mind that uses observation and experiment to fortify a preconceived idea, especially when that idea is already many centuries old. On the contrary, we are accustomed to take observation as our starting-point, as the beginning of our investigations, and as the source of truth and the supreme mistress of science."[2]

We give a sympathetic welcome to the proposal for mutual tolerance made by the two French writers in spite of the prejudices which they reveal. But

[1] Speaking of the *Introduction à la psycho-physiologie* in the *Revue néo-scholastique* of 1895 (April), by M. Thiéry, the *Année psychologique*, 1896, p. 847, wrote: "To this course belongs a laboratory, which makes a complete teaching equipment for normal psycho-physiology, such as is not now to be found in France."

[2] *Année psychologique*, 1896, p. 840.

what do they mean by a " preconceived idea " ? Must a man of science have no philosophy ? If men do not adopt the same philosophy, must they describe any philosophy they do not agree with as a " preconceived idea " ? If that is the case, only the sceptic will be above suspicion.

One is for or against Aristotle or St. Thomas just as one is for or against Comte or Kant. That is to say, one regards this or that philosophy, taken as a whole, as the most adequate conception of true knowledge. But it does not mean that one considers it as a finished achievement which the mind must adore in ecstatic and barren contemplation; nor does it mean that one holds it to be irreformable.

There is not a Catholic philosopher who is not ready to abandon an " idea already many centuries old " as soon as it is plainly contradicted by one observed fact. For we, too, are accustomed " to take observation as our starting-point, as the beginning of our investigations, as the source of truth and the supreme mistress of science."

The moral of all these prejudices for us Catholics is, that we should love science and cultivate it in our schools of philosophy more energetically than ever. The Aristotelian philosophy lends itself better than any other to the interpretation of the facts of experimental psychology. Let us recall the conclusion of the *Grundzüge der physiologischen Psychologie* of the founder of the laboratory of Leipzig. The results of my work, says Wundt, square neither with the materialist hypothesis, nor with the dualism of Plato or Descartes. Aristotelian animism, which connects psychology with biology,

is the only plausible metaphysical conclusion to be drawn from experimental psychology.

Indeed, if the materialists are right, if the soul is merely a dynamical or physiological piece of mechanism, it follows that physiological psychology is not a separate science, but only a page of mechanics or of physiology.

On the other hand, if the soul be nothing but mind, if it subsists of itself independently of the living body, and is directly and solely observable through consciousness, a laboratory of experimental psychology becomes inconceivable, for it presupposes a claim to make the soul the subject of experimentation, and to measure and weigh it and test its forces, etc.—in other words, it presupposes the material character of the soul.[1]

But if, with Aristotle and all the teachers of the School, we admit that man is a composite substance made up of matter and an immaterial soul, that his higher functions are really dependent upon his lower functions, that not one of his inward acts is without its physical correlative, not one of his thoughts without its representation, not one of his volitions without sensible emotion, at once the concrete phenomenon presented to consciousness gets the note of a combination which is both psychological and physiological. It depends both upon conscious introspection and upon biological and physiological observation. In short, we have a clear indication of the *raison d'être* of a science of psycho-physiology.

So clearly is it indicated that in the Aristotelian

[1] A. Thiéry, *Revue néo-scholastique*, April, 1895, p. 182.

philosophy psychology and physiology were not two separate, and much less opposed, sciences, but one and the same science. Dr. Hermann Siebeck, the historian of Psychology, judiciously observes: Aristotle was the first to have a thorough understanding of man's spiritual (mental) acts through their genetic connection with the bodily functions.[1] And M. Boutroux, in a remarkable article in the *Grande Encyclopédie*, very justly remarks: "Aristotle is a man of all-round and creative genius. . . . He has not Plato's élan: with a mind bent upon facts, he regards as chimerical all that is not connected with them; but he is no mere empiric, and in the sensible he looks for the intelligible. . . . Nor is this all. The various divisions of knowledge are mutually determined, according to Aristotle, by relationships which he very clearly defines. Generally, the higher is only known after the lower, and through the knowledge of the lower; but at the same time, it is in the higher that the *raison d'être* and true cause of the lower must be found."[2]

Thus the Aristotelian and Thomist anthropology wonderfully corresponds with the needs and endeavours of contemporary psychology. The three distinctive features of that psychology further enforce the same conclusion, either by their likeness or their unlikeness to the teachings of Aristotle.

The Cartesian dualists confine psychological study exclusively to inward facts observed by and in consciousness. Hence they logically conclude that

[1] Hermann Siebeck, *Geschichte der Psychologie*, 1 Th., 2 Abth., S. 126.

[2] Boutroux, *Grande encyclopédie*, on *Aristotle*, III, pp. 394-396.

the science of psycho-physiology is impossible or impracticable. The anthropology of Aristotle and St. Thomas, in contradistinction to this limited notion of psychology, relies both upon inward and outward experience, and thereby firmly lays down a foundation for psycho-physiology.

Metaphysics and, in particular, rational psychology, are discredited or abandoned outside the Christian schools of philosophy, and the tendency of metaphysics is generally represented as being diametrically opposed to the tendencies of science.[1] The Aristotelian and Scholastic anthropology founds its rational portion upon its experimental portion; it infers from scientifically observed facts and facts of consciousness the nature and, ultimately, the origin and destiny of man. The application of the principle of sufficient reason to the various data of consciousness and of outward observation leads first to the distinction of the faculties, then to the composite nature of man which is their first principle. The study of the higher activities of mind (*νοῦς*), the combined activities of the *νοῦς ποιητικός* and of the *νοῦς δυνάμει*, goes to prove the immaterial (*ἀμιγής*; unmixed) nature of the soul; and that its origin should be attributed to the action of an extra-material cause (*ἔξωθεν*); and that it is meant for the indefectible possession of the supreme Good.

Now, as M. Loomans rightly observes, "the different parts of philosophy are all connected with

[1] In Chapter VII we tried to show that metaphysics rightly understood is only the natural complement of science, and is far from being inconsistent or incompatible with it.

the knowledge of oneself: all have a psychological starting-point."[1]

Metaphysics thus understood is not a "piece of poetry," but the logical crown of science.

We do not shrink from acknowledging that for a long time metaphysics, in the Kantian sense—*i.e.*, the study of critical problems—had not in the Scholastic philosophy the place that the intrinsic bearing and historical importance of these problems should have given it. But there is nothing surprising in the fact.

Mankind is naturally dogmatic.[2] The child naturally believes in his father and mother and in those about him. Your ordinary man may learn by experience to doubt what others say; he does not doubt his own senses or his own intelligence. When the physicist and the philosopher note certain errors of the senses, when they perceive that they have stumbled into fallacies without knowing it, they look for empirical rules to protect themselves, but they are convinced that such mistakes as they

[1] Ch. Loomans, *De la connaissance de soi-même*, Brussels, 1880, Introduction, § 3. He runs through logic, metaphysics, moral philosophy, and æsthetics, one after the other in order to prove that each of them rests upon a "psychological basis," and he finishes his Introduction by this wise advice to the positivist. "Positivists are taken up with the study of a great many things, but not with the fundamental questions of psychology itself. What it is important for us to understand, is our own nature; and therefore, our own origin and destiny."

[2] We have gone into this matter in a treatise entitled, *Du fondement de la certitude*, Louvain, 1888, pp. 19 *ff.* Cf. *Revue néo-scolastique*, January, 1895, *La théorie des trois vérités primitives.* Cf. De Wulf, *Archiv f. Geschichte der Philosophie*, 1897, p. 402, *Les lois organiques de l'histoire de la psychologie.*

have made are purely *accidental*. Medieval thinkers call no more in question than those of ancient Greece the natural sincerity of our cognitive faculties, if working normally. When Sextus Empiricus [1] rises up against the too confident dogmatism of the philosophers, he does it on the ground of acknowledged aberrations of the senses or of the intellect. He opposes judgement to judgement, system to system, and endeavours to prove that, amidst all the medley, it is impossible to discern what is the proper use of reason, but he has no doubt as to the *possibility* of a proper use of reason. The distrust which the sceptics of ancient times sought to foster concerned the speculative reason, systems, and the disputes of the Schools, but they inferred the need of keeping to practical moral principles, and thus indirectly bore witness to their belief in the natural preordination of the mind to the possession of the true.

The whole of the Middle Ages rested upon such spontaneous assumptions. The daily sight of universal order prevented them from suspecting that man, creation's masterpiece, was merely a badly contrived piece of machinery, spoiling the general harmony. The law that every being had its natural destination, under the control of its own inward principle of finality, to fulfil the part providentially assigned to it in the whole cosmos, protected them from the notion of an essential disorder at the root of man's mind. In their commentaries on Aristotle's *Analytics* or in their metaphysics, when the masters

[1] *Hypotyposes Pyrrhon.*, II., 4. See our *Critériologie générale*, 5th ed., pp. 53 *ff.*, *Le scepticisme.*

of the School deal with the knowledge of the truth, the height of their ambition is to demonstrate in the nature of man's mind, reflexively perceived, the inner reason of a faith which they regard as indisputable.[1]

The confusion wrought by the Renaissance in the very midst of the decadence of Scholasticism, and the systematic doubts of Descartes, and that series of causes the succession of which we have endeavoured to describe in their concatenation,[2] were required to induce Kant, the genius of modern scepticism, to lay his axe of doubt to the very root of our cognitive faculties. Under the influence of the *Discours de la méthode* and of the *Kritik der reinen Vernunft*, the question of criticism is laid down in modern philosophy; and though it is stated in contradictory terms, laid down it is. Therefore neo-Thomists would be quite wrong if they took no notice of it. For whom are we philosophizing, unless it be for the men of our own times? And what is our object, unless it be to attempt a solution of the doubts which are an obsession in our contemporaries?

Besides, there is a large number of subsidiary questions to which the fundamental doubt of the *Critique* has given rise. They are questions of the highest interest. Let us, then, gratefully welcome, as Leo XIII tells us, and as we like to recall now, "every wise notion wheresoever it may come from"; men of genius do not work an intellectual revolution unless their most fatal errors contain a "soul of truth."

[1] St. Thomas, *De Veritate*, Q. I, Art. 9.
[2] See Ch. II above.

It is with philosophy as it is with faith. Heresy is the commonest occasion of the definition of Catholic dogmas. Kant's *Critique*, if Christian philosophers will only give their minds to it, will be the occasion for a deeper philosophy of criticism, possible to-day, but impossible in the days of unbroken philosophic faith. And this is the first benefit neo-Thomism has to confer upon modern philosophy.

The second benefit we have already pointed out: it will be a closer application to scientific observation and experimental methods in psychology.

We believe that it is impossible to do a greater service to the general teaching of the Scholastic psychology than by putting it in touch with the established results of cellular biology, histology, embryogeny, physiology, and philology; by simplifying psychic facts as far as possible, after the manner of the English Associationists; by trying to understand the human adult by studying animal and infantile psychology, the healthy subject by means of the pathological subject, the moral man by means of the criminal, as is done in psychiatry and criminal anthropology, in which the minute observation of certain exceptional conditions brings out into greater relief characters which are unnoticed in normal types in ordinary circumstances; by following up any particular *modification* or *variation* in human activity in the case of different races, or at different periods, as they have been followed up by Lazarus, Steinthal, and Herbert Spencer; and by submitting the psychological subject to that sort of mental dissection which is facilitated by well-conducted hypnotic experiments and suggestions.

But above all is it important that the neo-Thomists should take up a more prominent position in the movement for psycho-physiological investigation in the direction given to the experimental school by Wundt.

Of course, we have not to weigh the mind, nor to measure the dimensions of the soul, as some works or philosophical magazines published by Christian writers appear to insinuate at times. We have only to take the fact of consciousness as it is, in all its material and immaterial complexity. On its material side it is linked with the external world, undergoes its action, and reacts upon it. The fact thus roughly regarded is a matter of the most common observation, and spontaneous consciousness suffices to inform us generally of its effects.

But consciousness, if left to itself, can hardly inform us of the elements of which the complex whole is composed, as it appears in its undivided state of spontaneous introspection. To dissociate these elements in order to come to the simplest of analytic data, those technically termed *impressions* by Wundt; to reconstruct synthetically the concrete complex facts of spontaneous consciousness—*i.e.*, *representations*—and to determine the *associative* laws of representation: such is in brief the programme of the new science of psychology.

What is there in all this to be afraid of? Will it be said that such a science is vain? Or that it does not matter whether we discover if a colour sensation is simple or complex; what are the physical and physiological conditions of representation; and on what principles the total content of consciousness is ultimately composed?

Such objections as these are irritating. Who can foretell the importance or unimportance in the long run of any discovery? What the Omnipotent has thought fit to create, and esteems worthy of His control, must surely be worth the attention of human reason. He little understands the dignity of science who contributes such prejudices to its work.

We do not deny the benefits of science, say others, only we do not perceive the *raison d'être* of psycho-physiology *in philosophy*.

Do the psychologists who betray such a distrust of psycho-physiology hesitate to acknowledge that physics, chemistry, and geology are auxiliaries to cosmology? On the same ground, psycho-physiology is an auxiliary science to psychology in the traditional sense of the term.

Natural sciences, say others, contribute in a practical way to the field of observation, but consciousness has but one means of self-study, and that is consciousness. Hence there is no good reason for dividing psychology on the one hand into rational psychology, wherein consciousness must be investigated by consciousness, and on the other hand into experimental psychology, wherein the phenomena of consciousness have to be investigated by other recording apparatus than that of consciousness.

Here we have a fallacy, as M. Thiéry very rightly remarks.[1] In experimental psychology, as in rational psychology, consciousness is only observed by itself. If the one is called experimental psychology, it is

[1] A. Thiéry, *Introduction à la psychologie*, in the *Revue néo-scolastique*, April, 1895, p. 183.

because the observations of the inner sense are therein investigated not only by themselves, but also with the help of recording scientific apparatus.

And this kind of division is to be found in many other sciences, such as astronomy. For what is the use of astronomical instruments? The heavens now scanned in observatories are the same as those of the early shepherds of Chaldea, who dimly dreamt of contemplating the various constellations. There is no need to tell us that telescopes now take the place of eyes, because they increase our powers of vision. And thus is it with psychology. The subject of investigation in our laboratories is the same human being that was investigated by the medieval Scholastics; but to help us to form *accurate* conclusions, we possess instruments which increase our perceptive powers tenfold.[1]

[1] A. Comte objects that the method of inward observation is contradictory, because "the thinking subject cannot divide himself into two parts, one of which reasons while the other looks on at the reasoning."

If the observing subject is an organ made of matter, the objection is unanswerable; but it misses the mark if the subject is not material. Thus the difficulty assumes the question in dispute between Comte and Spiritualism.

Comte also commits a fallacy as to the *object* of introspection. He credits us with thinking that the subject must begin by creating a void in the mind in order to know itself. But we believe we have already proved that this supposition is a contradictory one. The mind only knows itself by means of its own activity.

If we deny the possibility of inward observation, do we not make all human knowledge impossible? After we have apprehended external facts by means of the senses and the mind, must we not turn our observation upon ourselves to get an exact notion of what we have apprehended? Is the positive philosophy anything more than the working out of a notion which A. Comte claims as his own? And would he have brought it forward if he had not conceived and apprehended it inwardly before he gave expression to it?

CONCLUSION

UNLESS we are deceived, the fundamental anthropological doctrines of Aristotle and of St. Thomas Aquinas emerge all the stronger from the test we have applied to them, by comparing them with the dominant ideas of contemporary psychology.

Quite as much as hitherto, and even more, do we feel the necessity of keeping the observed facts of consciousness in close connection with the facts of biology, and of defining the soul, not by saying along with materialism: the soul does not exist; or that it is merely a sum of the special properties belonging to brain-matter; nor by saying with the dualistic spiritualism of Descartes that the soul, being external to the body upon which it acts by an inconceivable point of the brain, is an immaterial substance whose whole nature consists in thinking—but, by taking up once more the Aristotelian definition, and by saying of the soul in general that it is: *Εἶδος σώματος φυσικοῦ δυνάμει ζωὴν ἔχοντος. Ἡ ψυχή ἐστιν ἐντελέχεια ἡ πρώτη σώματος φυσικοῦ δυνάμει ζωὴν ἔχοντος.* The soul is the form of a physical body potentially possessing life. The soul is the first act (actuality) of a natural body possessing life potentially.[1]

[1] *De Anima*, II., cap. i., 4, 5.

And we shall define the human soul as: Ἡ ψυχὴ δὲ τοῦτο ᾧ ζῶμεν καὶ αἰσθανόμεθα καὶ διανοούμεθα πρώτως—*that whereby we primarily live, and feel, and think*.[1] These definitions sum up the essential theses of anthropology, provide against the defects and excesses of contemporary psychology, and furnish a solid basis for the bold investigations of critical philosophy and of psycho-physiology to which Kant and Wundt each gave such an impetus.

Thus, as Trendelenburg told his fellow-countrymen, the starting-point for philosophy is no more to seek: it is there. It only remains to be developed by reflecting upon general truths and by diligent attention to experimental science. And the followers of Aristotle, if only they keep wide awake to the experimental origins of thought, will be less liable than others to go astray in the fancies of idealism and subjectivism. They will be able, as the *Revue scientifique* acknowledges, "to square with their philosophy contemporary investigations of physiology and of psycho-physiology, without making any compromise, and without any injury to science."[2]

If neo-Thomism keeps faithful to this programme, it will be able to rejuvenate the philosophy of the School with fortunate discoveries, to renew its apparatus in part, and to wear in the eyes of posterity a very different aspect from that which it presents to-day. Nevertheless, those who would fathom its deepest possibilities will again find in

[1] *De Anima*, II., cap. ii., 12.

[2] *Revue scientifique*, LI., 1893, p. 55. See above, Introduction, p. viii.

the substructure of the building the soundness and completeness of the principles which governed the uprise of Western civilization. They will joyfully acknowledge that there has been progress without revolution, acquisition without loss, and the growth of a living unity which has been constantly enriched by the variety of the contributions made to it by all the branches of human knowledge.[1]

[1] See Mgr. d'Hulst, *Philosophie séparée et philosophie chrétienne*, Namur, 1896, pp. 27, 28.

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